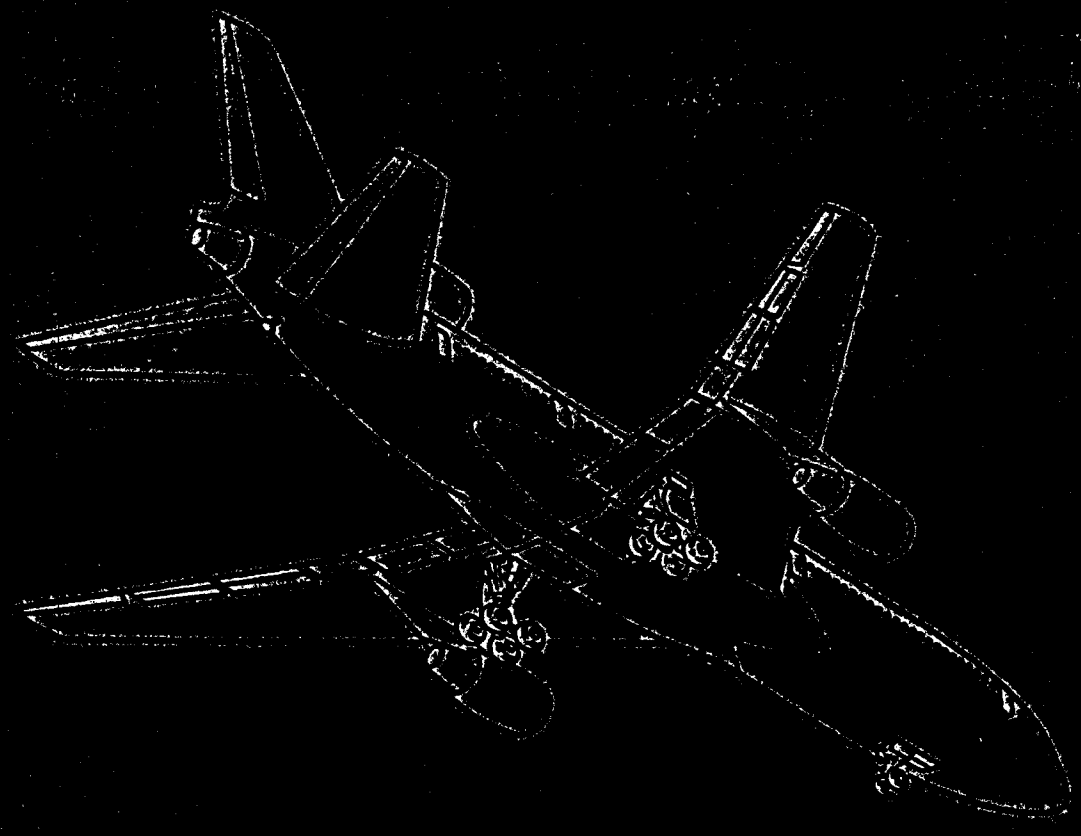
TWA

L-1011
CATEGORY IIIB
INITIAL TRAINING



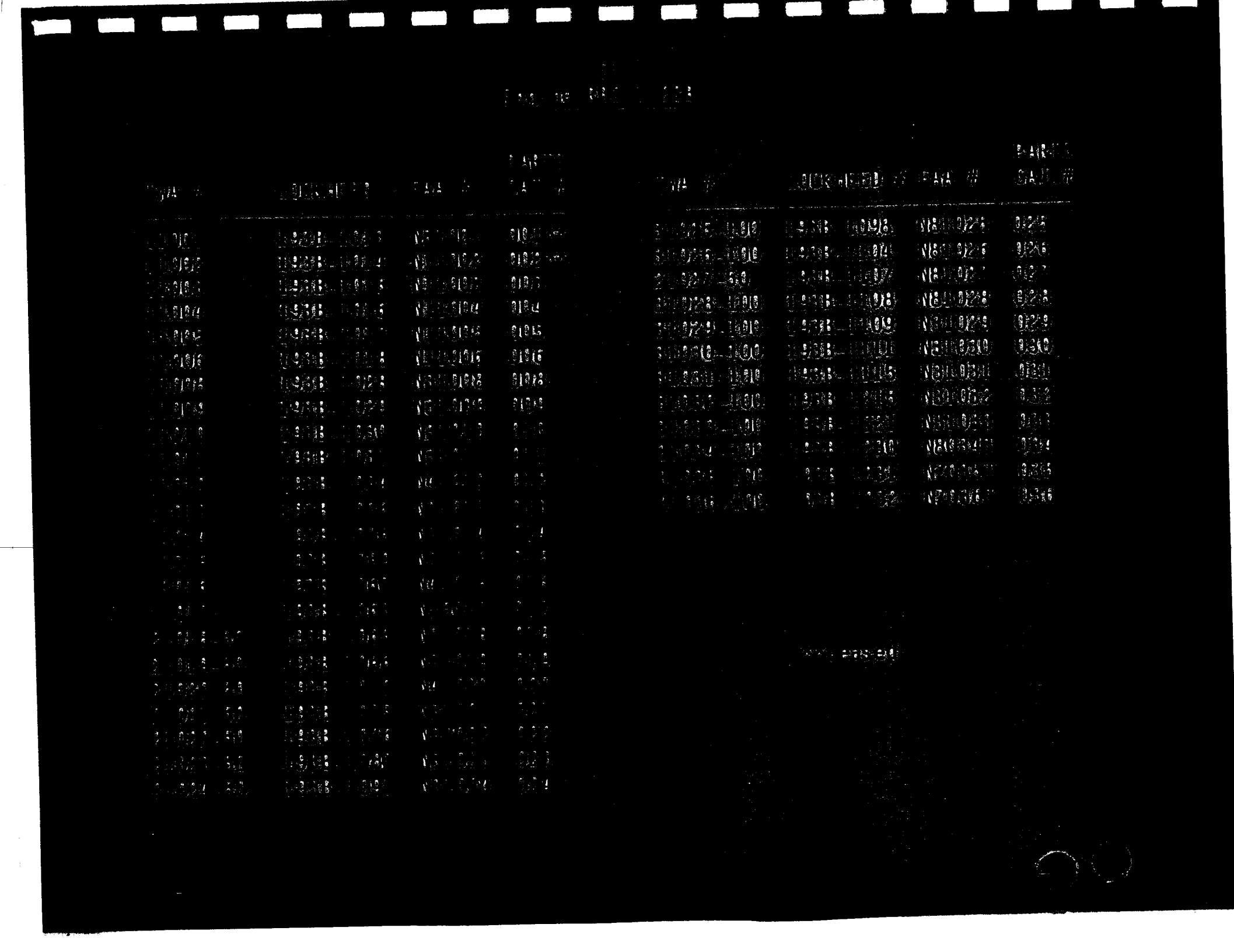


L-10/11
CATEGORY IIB
INITIAL TRAINING



This guide is for training purposes only
and will not be revised.
Company file aggregate material for
the latest information and directives.

Operational Operations Training
March [illegible]



L-1011 AFCS MNEMONIC DEFINITIONS

A	Channel "A"
AADF	Angle-of-attack averaging defeat
AALS	Altitude acquire level switch - logic true when 8 feet or less from selected altitude.
AAS	Aileron Authority switch
AC	Altitude Capture - engaged
ACCEL	Accelerometer
ACLOR	Aileron Command Limit Override
ACLS	Altitude Capture level switch -(logic true when rate of climb or descent is greater than 13 times the altitude error)
ACV	Altitude Capture valid - from FCES Computer
ADC	Air Data Computer
AF	Align Fade - logic true at < 150 feet Radio Altitude
AGSB	Auto ground speed brakes
AHE	Altitude hold mode engaged
AHS	Altitude Hold Select - pushbutton
AIL	Aileron
AL	Approach/land (Autoland)
ALIM	Runway alignment mode from YAW SAS
A/L ILS	ILS frequency - this side
ALS	Approach/land select - pushbutton
ALTRK	Approach/land track
ALT T	TO/GA Altitude trip
ALV	Approach/land valid
AN	Normal accelerometer
AOA	Angle of Attack
APCMD	Autopilot in command this side
APCWS	Autopilot in control wheel steering
APENG or APE	Either autopilot servo engaged

APPD	Approach disconnect (AC + VSE + AHE + MHE + LASE)
APPE	Approach mode engaged
APPLE	Approach/land mode engaged
APPS	Approach mode selected - pushbutton
ASAE	Altitude select arm engaged
ASAS	Altitude select arm selected - pushbutton
ASM	Airspeed mode
A/T	Autothrottle
ATCV	Autothrottle computations valid
AT COMP V	Autothrottle comparator valid
ATE	Autothrottle engage
ATI	Autothrottle inhibit
ATOR	Autothrottle override
ATPMI	Autothrottle pitch mode interlock
ATS	Autothrottle servo
AV	Altitude signal valid
AZ	Normal acceleration
ab	Angle-of-attack body (alpha body)
ae	Angle-of-attack error (alpha error)
ar	Alpha reference
B	Channel B
BB	Flight Director bar bias
BED	Beam error detector
BHE	Bank hold engaged
BLAAA	Autopilot in CMD, flight director on and in glideslope track mode.
BLSA	Beam level switch - logic is true when glideslope error is less than 30 ua (0.14 degree)

L-1011 AFCS MNEMONIC DEFINITIONS

BLSB	Beam level switch - logic is true when glideslope error is less than 15ua (0.07 degree).
C	Comparator
CAL	Comparator, autoland
CAN	Comparator, accelerometer
CAP	Capture
CAP INH	Capture inhibit - 6 second pulse produced by VOR transition or radio mode change
CASV	Computed airspeed valid
CCWS	Cruise comparator
CCD	Course datum comparator
CD	Course datum
CDC	DC power monitor
CFD	Comparator, flight director
CI	Compass inhibit
CMD	Either autopilot engaged in command
CPSH	Control panel solenoid high side - switch $\overline{\text{OFF}}$
CS1	Servo comparator #1 (CMD versus follow-up)
CS2	Servo comparator #2 (EHV coil currents)
CT	Comparator, autothrottle computation
CTG	Comparator, takeoff/go-around
CWE	Control wheel steering mode engaged
CWS	Control wheel steering
CWSGT	Control wheel force greater than 4/8 lbs.

L-1011 AFCS MNEMONIC DEFNITIONS

DCDC	Delayed CDC
DLC	Direct Lift Control
DLGRV	Delayed and latched glideslope receiver and radio altimeter valids
EHV	Electro hydraulic valve
ENG	Engage
EQUAL	Equalization signal
F	Flare
FBBOR	Flight Director bar bias override
FCES	Flight Control Electronic System
FD	Either Flight Director engaged
FDE	Flight Director engaged
FDGS	Flight Director glideslope annunciation.
FDPS	Flight Director pitch sync.
FI	Fault Indicator
FIM	Fault Isolation Monitor
FLR	Autothrottle flare mode
FLSCH	Flap schedule change
FS	Flap switch - logic true when greater than 30 degrees.
F SYNC	Fast synchronization
GAE	Go around mode engaged
GAS	Go around select - pushbutton
GS	Glideslope
GSC	Glideslope capture
GSOR	Glideslope capture override

L-1011 AFCS MNEMONIC DEFINITIONS

GSRV	Glideslope receiver valid
GST	Glideslope track (approach/land)
HHE	Heading hold engaged
HPE	High pressure hook engaged
HPHF	High pressure hook monitor
HPMV	High pressure hook monitor valid
HS	Heading select - pushbutton
HTSA	Height switch A - logic true when radio altitude is 1500 feet or less
HTSB	Height switch B - logic true when radio altitude is 50 feet or less
$h^{\bullet}$	Vertical rate
$h^{\bullet}B$	Barometric vertical speed
h_R	Radio altitude
IASE	Indicated Airspeed hold engaged
IASS	Indicated airspeed hold select - pushbutton
ILS	ILS frequency or other ILS frequency.
ILS FREQ	ILS frequency this side
LBLSB	Latched BLSB
LOC	LOCE + APPE + APPLE
LOC ARM	Localizer arm annunciated
LOC CAP	Localizer capture engaged
LOCE	Localizer mode engaged
LOCS	Localizer select - pushbutton
LOCV	Localizer receiver valid
LVDT	Linear variable differential transformer

L-1011 AFCS MNEMONIC DEFINITIONS

MBB	Mode bar bias
MCE	Motor control enable (A/T)
MED	Mode engage disable - stuck pushbutton override
MGS	Main gear safety switch - logic true when oleo compressed
MHE	Mach hold mode engaged
MHS	Mach hold select - pushbutton
MO	Mode override
MON	Monitor
MV	Mach valid
NAM	Normal accelerometer
NAV ENABLE	At least one nav receiver tuned to a VOR frequency
NAVS	Nav mode selected - pushbutton
ND	Nose down
NONE	No mode engaged
O	Other
OSS	Over station sensor
PCMDV	Pitch command valid
PHE	Pitch hook solenoid engaged
PHM	Pitch hook monitor
PHMI	Pitch hook monitor inhibit
PHS	Pitch hook sync
PNFF	Pitch no first fail
PRL	Parallel rudder servo configuration
PROC NAV	Processed Nav valid (LOCV • RAV)
PROC TAS	Processed ture airspeed

L-1011 AFCS MNEMONIC DEFINITIONS

PSM	Power supply monitor
PTFS	Pitch trim and feel system
PTI	Pitch trim inhibit
RAV	Radio altimeter valid
RCMDE	Roll Command enable
REL	Release
RHK	Rudder hook engaged
RMP	Rudder modulation piston engaged
RNAV	Area navigation mode engage
ROM	Rollout mode engaged - YAW SAS
RSE	Roll servo engaged
RV	Roll valid
SCS	Speed control system
SCSV	Takeoff/go-around signal valid - speed control system
SMM	Stall margin mode
SOL	Solenoid
SSW	Either strut switch compressed
STC	Throttle command
SVS	Sync vertical speed
TAPE	This side autopilot engaged
TAPM	Trim augmentation power monitor
TAS	True airspeed
TE	Turbulence mode engaged
TOE	Takeoff mode engaged

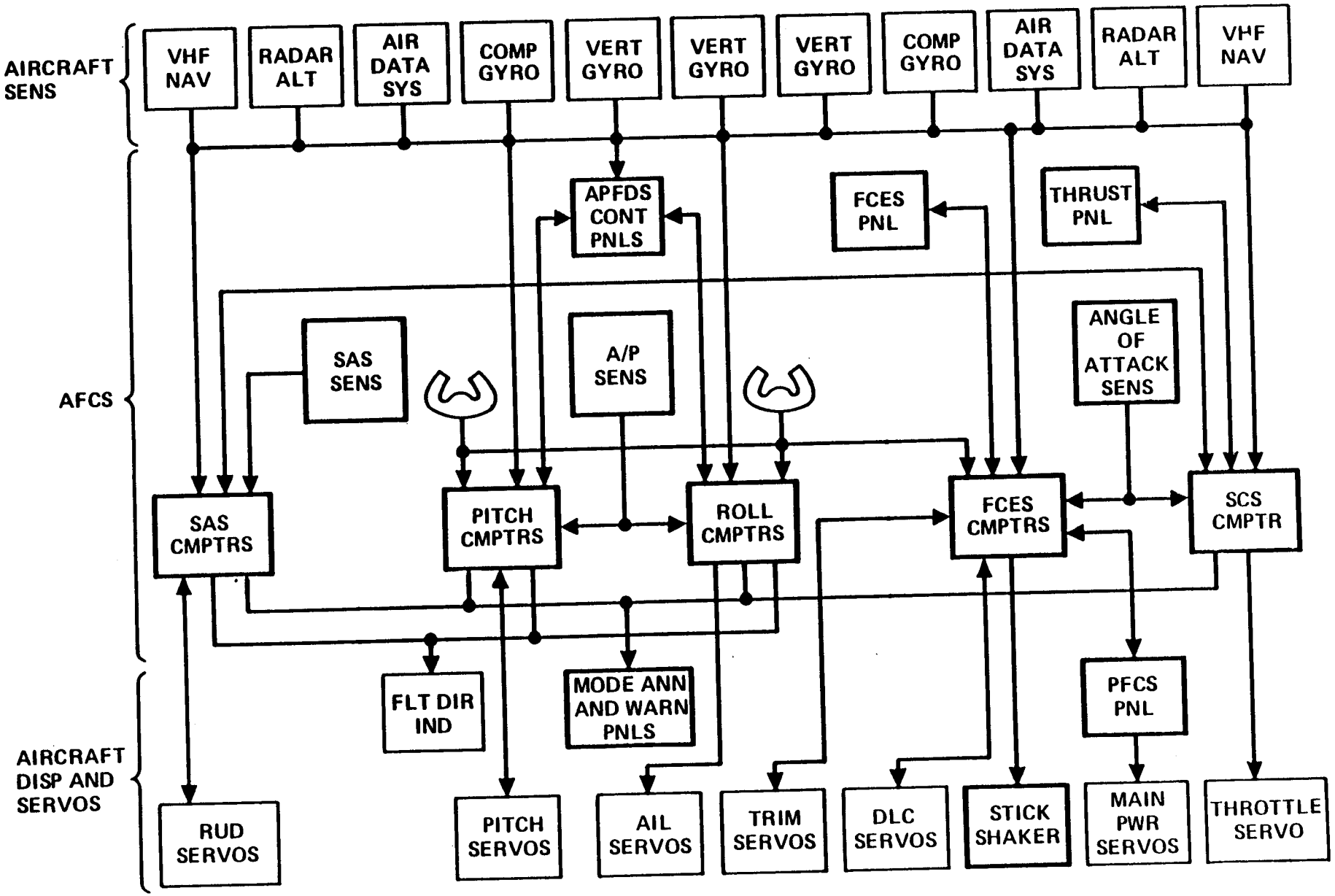
L-1011 AFCS MNEMONIC DEFINITIONS

TO/GA	Takeoff or go-around
TRK	Glideslope approach track in pitch computer - LOC or VOR track in roll computer
TRK 1	Localizer track plus 30 seconds
TRIM V	Trim system valid
TS	Turbulence select - pushbutton
TURB	Turbulence mode
Uc	Complemented acceleration
VGV	Vertical gyro valid
VOR	VOR frequency or other VOR frequency
VORE	VOR mode engaged
VSE	Vertical speed mode engaged
VSS	Vertical speed select - pushbutton

CATEGORY	DESCRIPTION	MINIMUM APFDS ENGAGE STATUS
I	DECISION HEIGHT . . . . . 200 FEET FORWARD VISIBILITY . . . . . ½ MILE (2600 RVR)	APR MODE AND ONE FD ON OR ONE AP IN CMD
II	DECISION HEIGHT . . . . . 100 FEET FORWARD VISIBILITY . . . . . ¼ MILE (1200 RVR)	A/L MODE AND ONE FD ON OR ONE AP IN CMD
IIIa	ALL-WEATHER OPERATION TO TOUCHDOWN. SUFFICIENT FORWARD VISIBILITY (700 RVR) TO ACCOMPLISH ROLLOUT BY CUES OUTSIDE COCKPIT.	A/L MODE AND BOTH AP'S IN CMD
IIIb	ALL-WEATHER OPERATION TO TOUCHDOWN. ACCOMPLISH ROLLOUT WITH APPROPRIATE INSTRUMENTS AND SUFFICIENT FORWARD VISIBILITY (150 RVR) FOR TAXI GUIDANCE.	A/L MODE AND BOTH AP'S IN CMD
IIIc	ALL-WEATHER OPERATION TO TOUCHDOWN. ACCOMPLISH ROLLOUT AND DELIVERY AT GATE POSITION WITH NO OUTSIDE VISUAL GUIDANCE.	

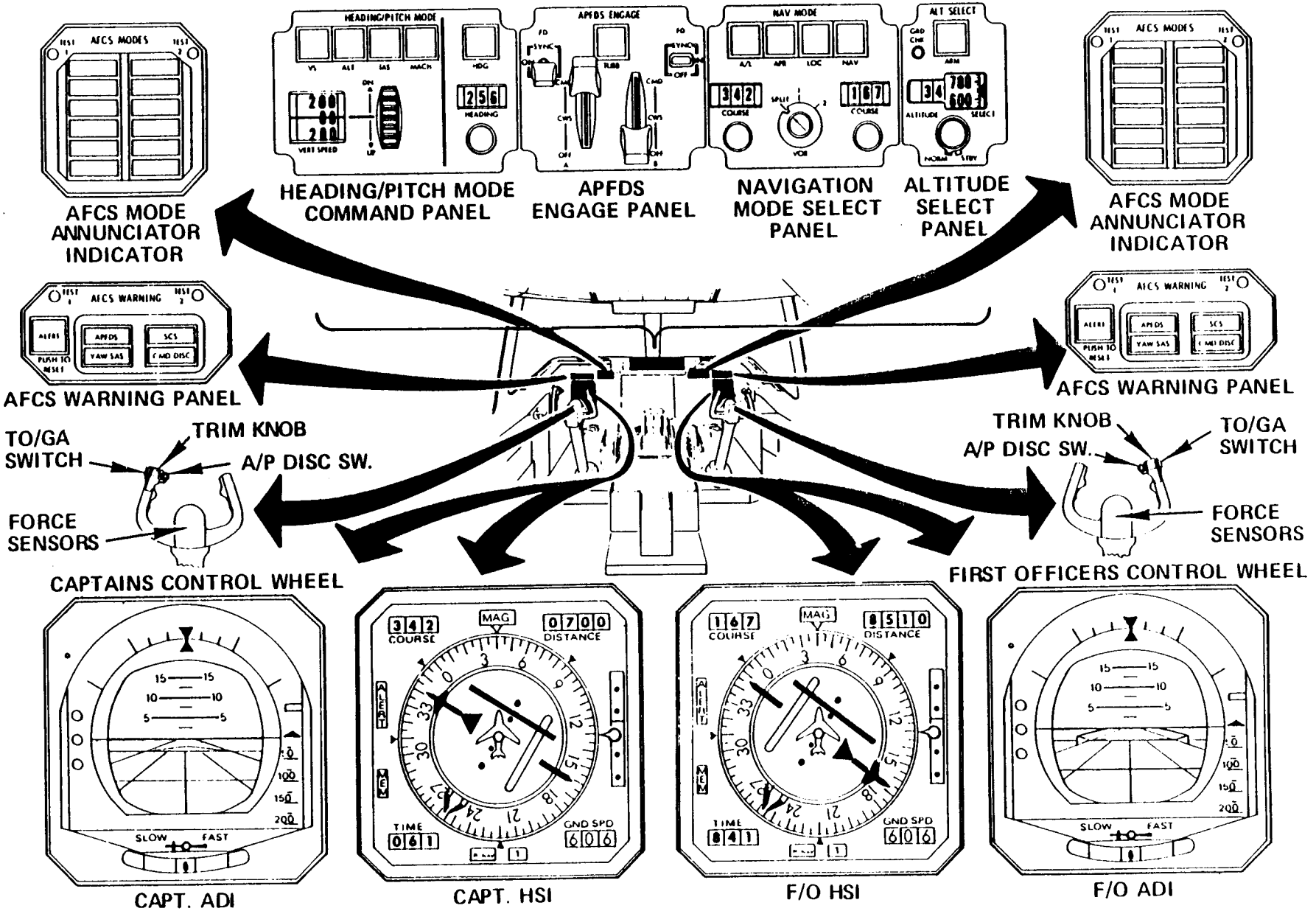
I.C.A.O. WEATHER MINIMA CATEGORIES

FOR TRAINING PURPOSES ONLY

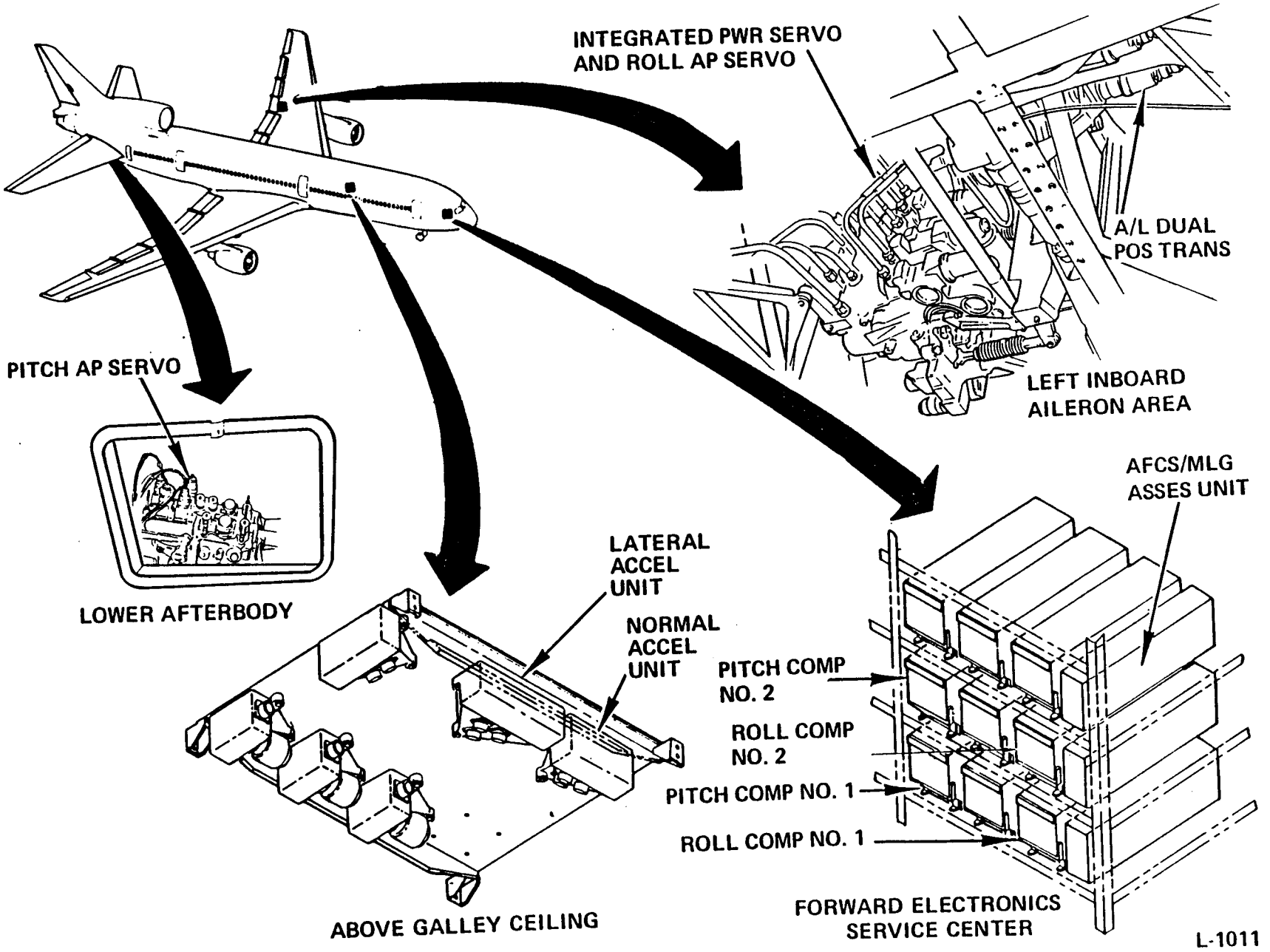


AFCS INTERFACE BLOCK DIAGRAM

T22-00-0100-002



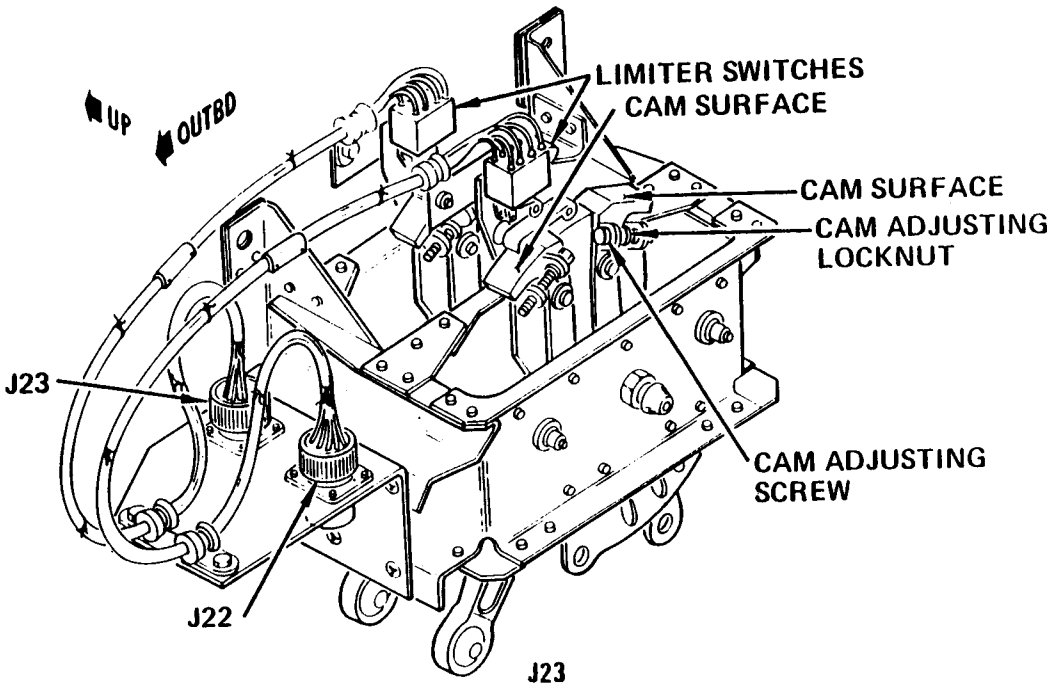
APFDS FLIGHT STATION COMPONENT LOCATIONS



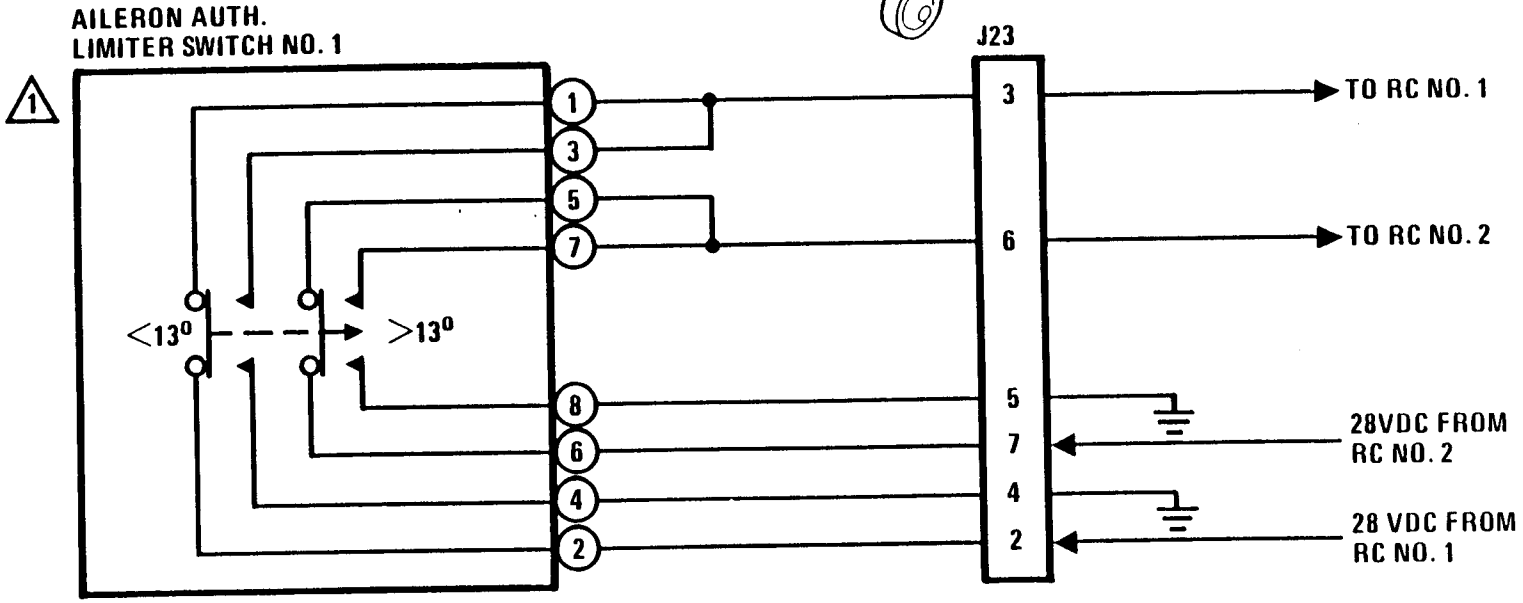
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APFDS COMPONENT LOCATIONS

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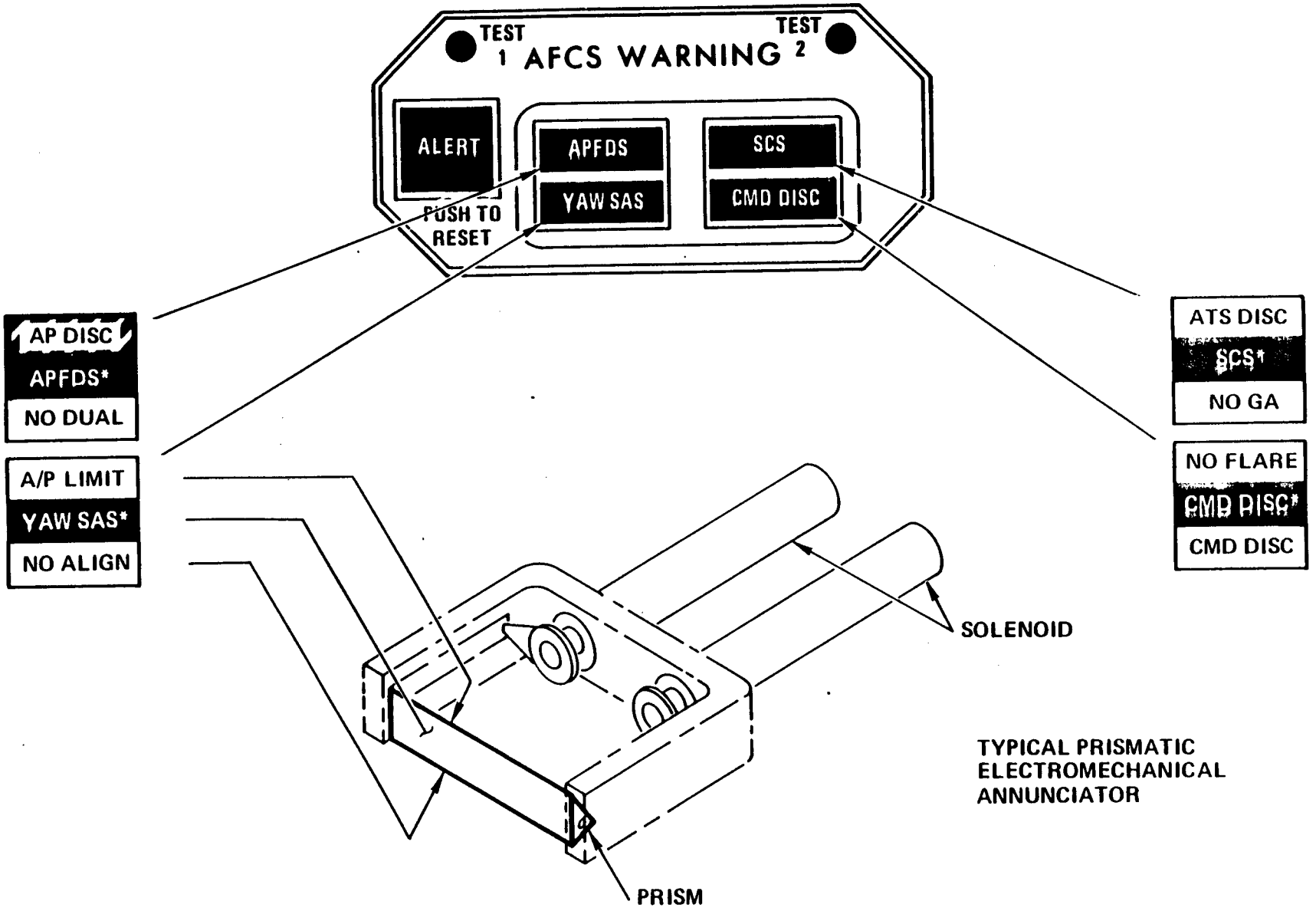
1 AILERON AUTH LIMITER SW NO. 1 AND PLUG J23 ARE IDENTICAL TO LIMITER SW NO. 2 AND PLUG J22



AUTOPILOT LIMITER SWITCHES

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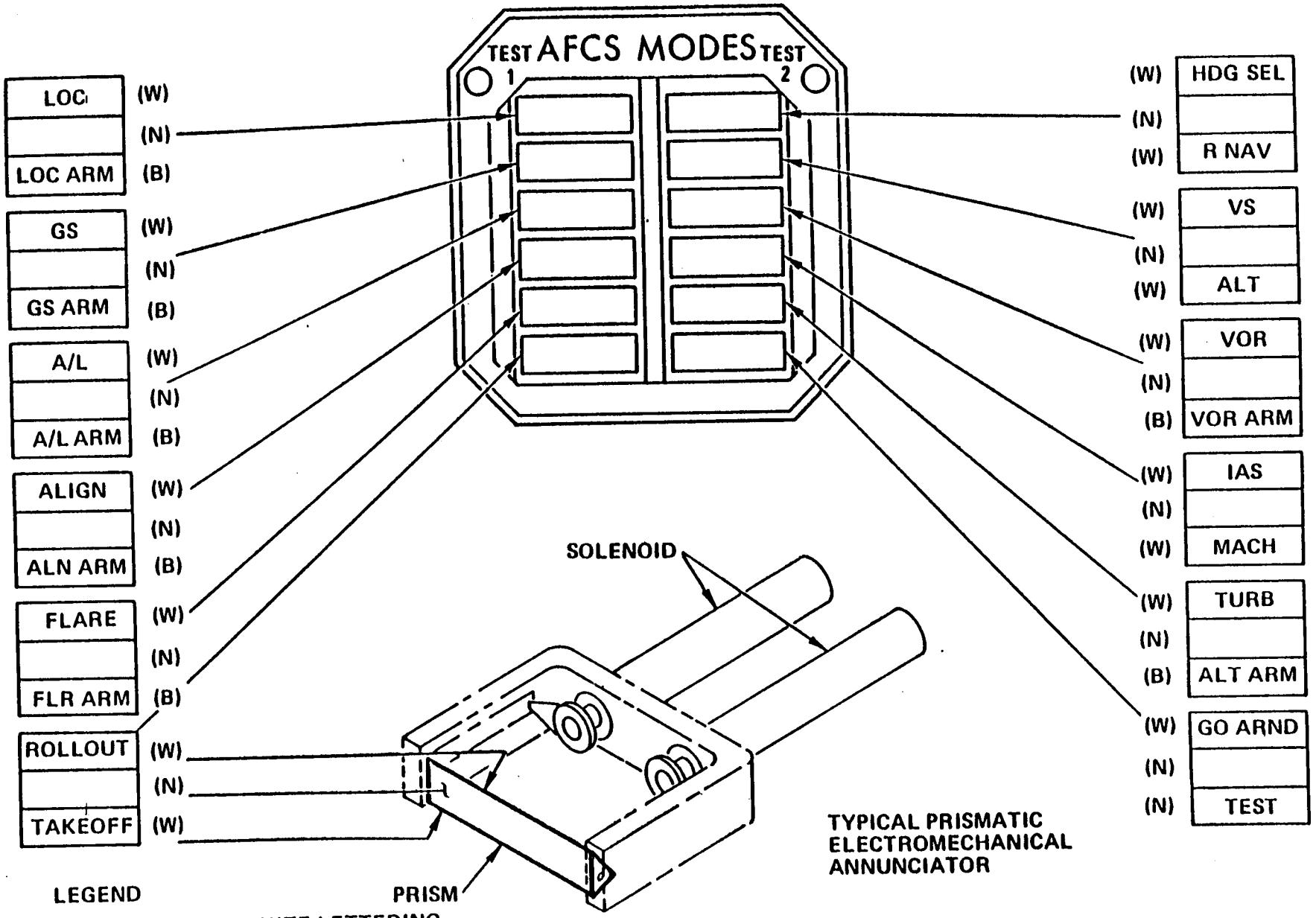


TYPICAL PRISMATIC ELECTROMECHANICAL ANNUNCIATOR

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AFCS WARNING INDICATOR AND LEGENDS

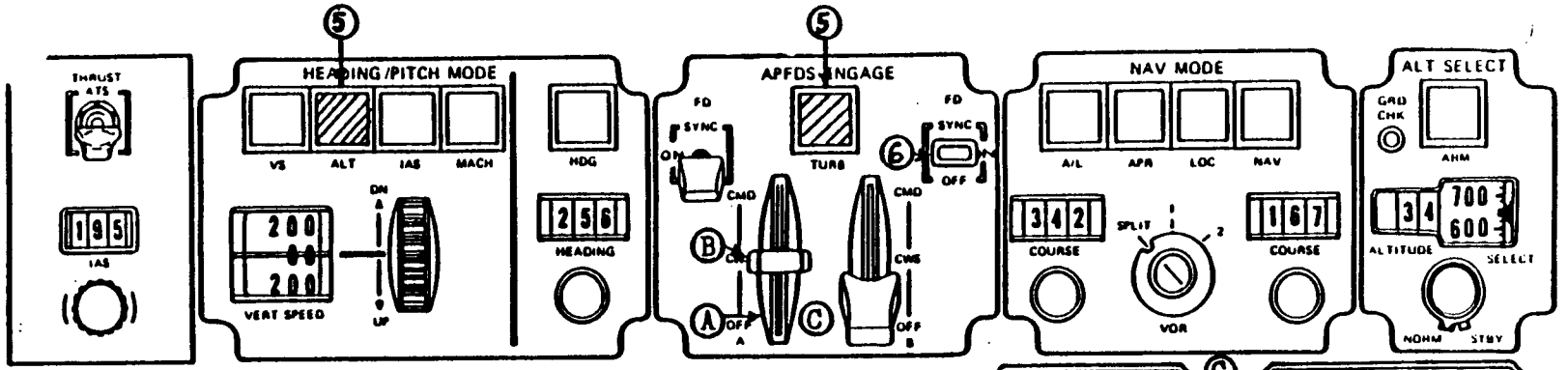
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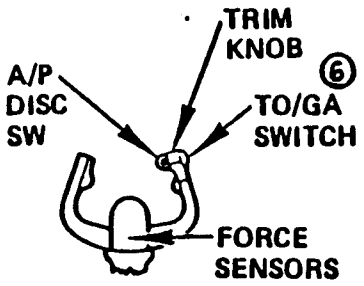


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AFCS MODES ANNUNCIATOR INDICATOR AND LEGENDS

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ROLL SIGNALS

1- F > 2.8 lbs-Sync Attitude and provide CWS engage logic
2- F > 3.2 lbs-Start CWS cmd.
3- F > 15 lbs-Drop CMD engage to CWS engage if not in A/L TRK OR GA
4- Bank angle limits-
CWS-None
Att. hold-±35 degrees
Wings leveling->35 deg.
5- Roll rate limits-None
6- Aileron ± 7.5 deg. CMD limiter overridden on CWS ENG F>2.8 lbs and Aileron 13 deg. sw"s bypassed in interlock circuit

T-22-10-0100-021

Ⓐ INITIAL ENGAGE INTERLOCKS

1- Electrical power to units and all units properly installed
2- Other A/P off
3- Aileron control less than 13 degrees from trim
4- A/P disconnect switches not depressed
5- At least one auto trim channel valid.
6--Vertical gyro valid
7- Compass valid
8- Yaw computer A.C. pwr. Mon. valid
9- A/P pitch servo pressure regulator monitor switch sensing low press.
10- Roll servo engage logic 28 v. DC supplied from pitch to roll and roll valids from roll to pitch

Ⓑ CWS ENGAGE HOLD INTERLOCKS

1- Same as above
2- Hydraulic power with roll servo hook engage pressure monitor switch actuated AND E/H VALVE COIL CURRENT MONITORS

Ⓒ A/P DISCONNECT FAULT WARNING

1- Loss of any interlock will drop

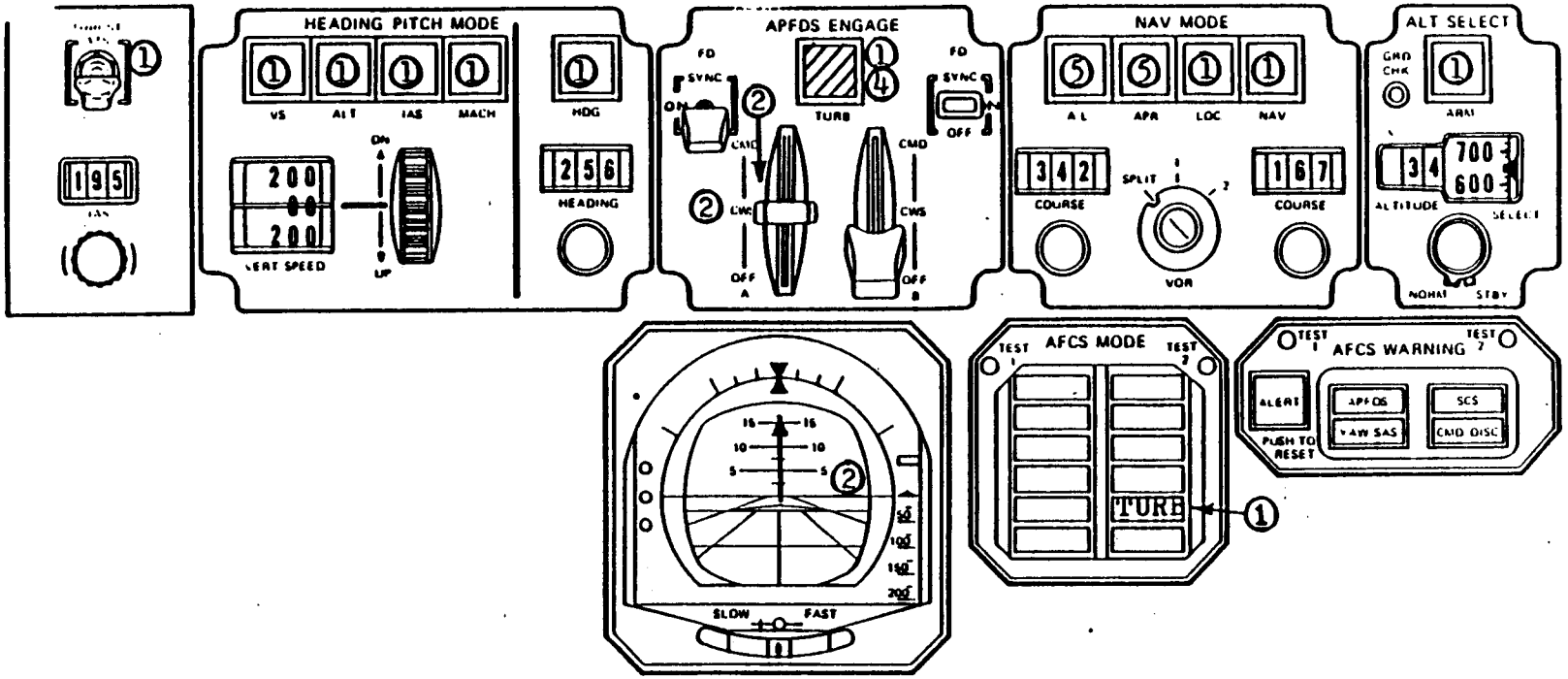
CWS MODE

engage switch to off with A/P DISC annunciation, flashing alert light and two second wailer

PITCH SIGNALS

1- F>4 lbs- Sync Attitude and versine and start CWS CMD
2- F>15 lbs-Drop pitch mode-Drop from CMD to CWS if in GSC+GST+GOE
3- Pitch Angle Limits-
CWS-None
ATT hold-±18 deg.
Nose leveling > 18 deg.
4- Pitch Rate Limits-
CWS-5 deg./sec.
ATT hold or leveling-
1.4 deg./sec.
5 deg./sec. with flaps > 30 deg.
5- Compatable modes-
Altitude hold and Turb.
6- Flight Director can be sel. to any mode and CWS used to follow the CMD bar like in Take Off mode.

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1- TURB mode selection overrides all other modes except APR and A/L. ATS engage switch drops to off if engaged.

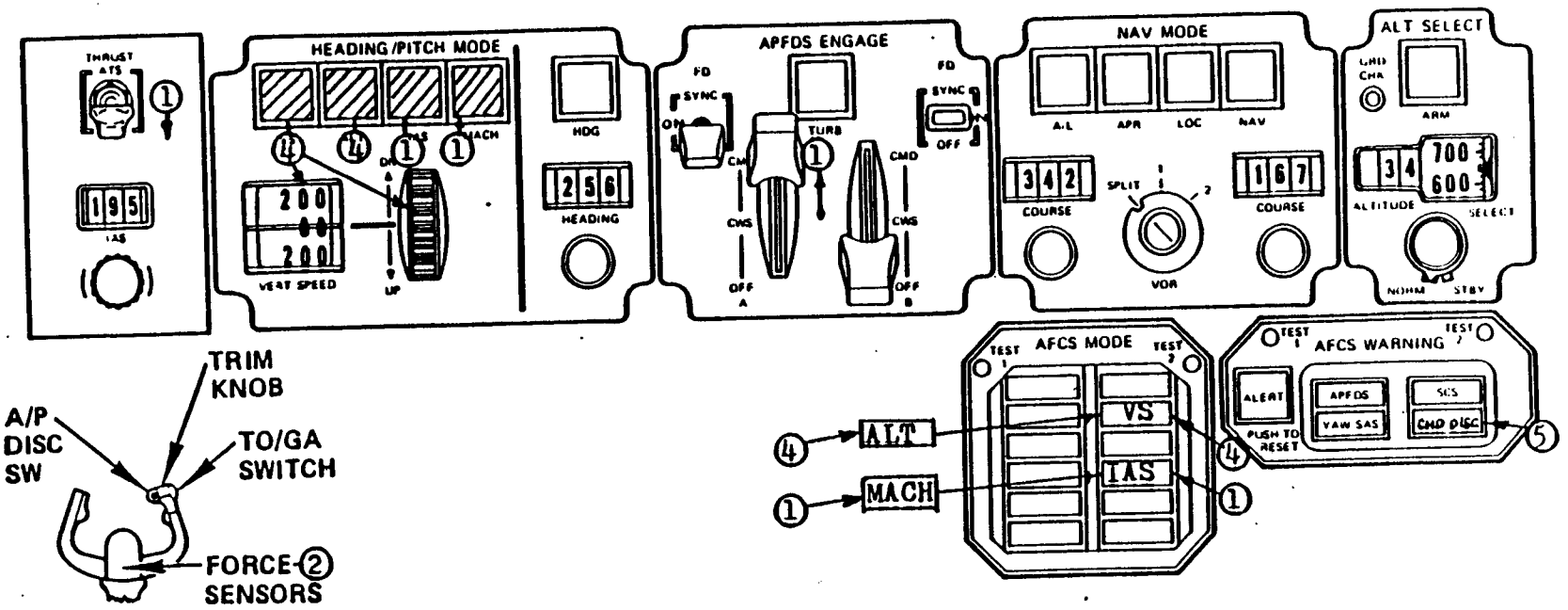
2- F/D CMD bar disappears with no F/D flag. Engage switch for A/P if previously engaged in CMD will drop to CWS position.

3- CWS forces are doubled and attitude and HDG hold signals have a gain reduction of 50%.

4- No other modes maybe selected until TURB switch is pushed a second time to disengage mode or the A/P is disconnected.

5- APR and A/L selection inhibits TURB mode selection.

TURBULENCE MODE



1- A/P engage switch is selected to CMD position if desired pitch mode is wanted for A/P operation. Pitch modes maybe selected with F/D on only or A/P or both. IAS, MACH, and TURB selection will drop ATS if engaged. ATS engage will drop IAS and Mach modes only.

2- A CWS pitch force > 15 lbs. will drop VS, ALT, IAS, and MACH modes but A/P engage switch remains in CMD.

3- IAS and MACH modes do not use TAS gain schedule. PAL=±18 deg. PRL=1.4 deg./sec.

4- VS and ALT modes are TAS gain sceduled and are signal limited and have
PAL=±18 deg.
PRL=1.4 deg./sec.
5 deg./sec @ flaps > 30 deg.

5- Loss of a flag validity necessary for any pitch or roll command mode will cause a CMD DISC annunciation with flashing ALERT light and the engage switch to drop from CMD to CWS position. When A/L TRK occurs flag validities are no longer monitored.

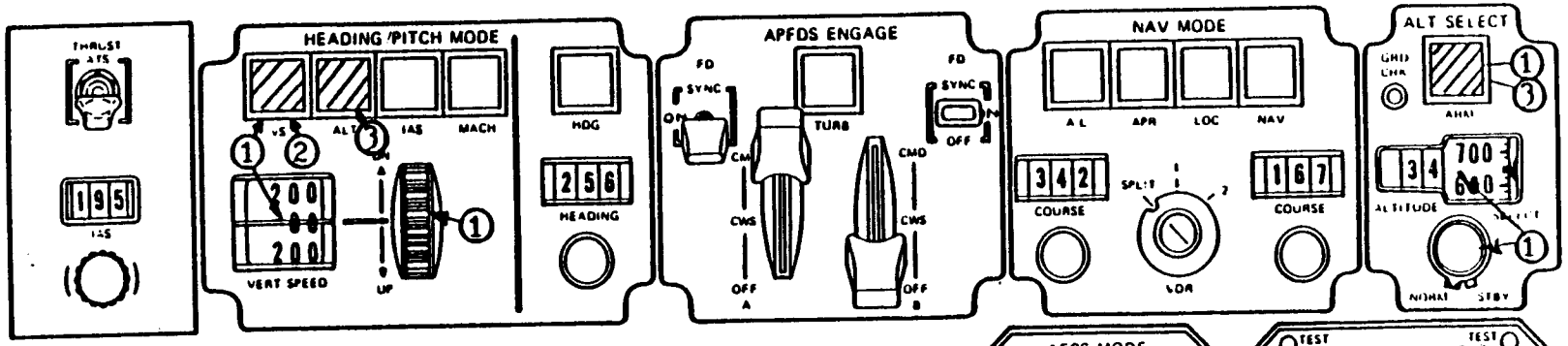
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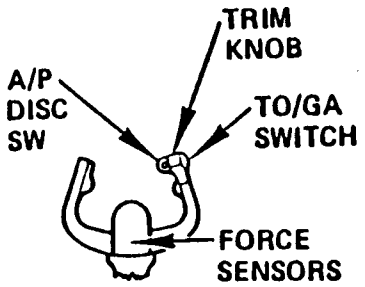
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VS, ALT, IAS AND MACH HOLD MODES

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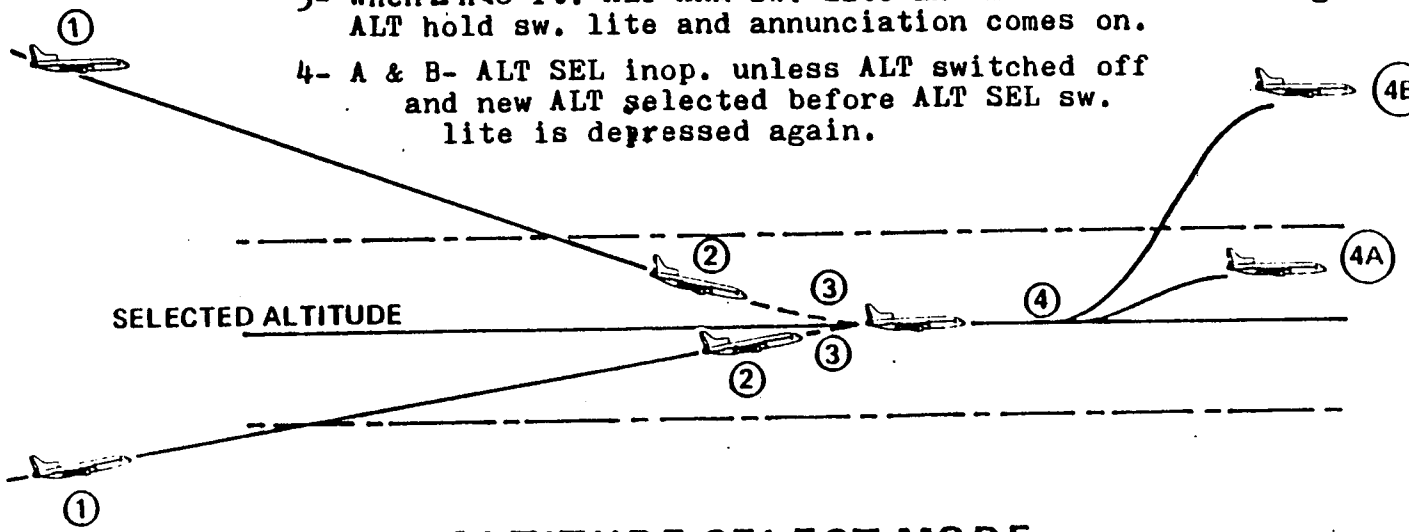


1- Desired altitude is selected in window of ALT Select panel. ALT SEL sw. lite is pushed and it illuminates. V/S sw. lite is pushed and thumb wheel is turned to move V/S tape to desired climb or descent rate.

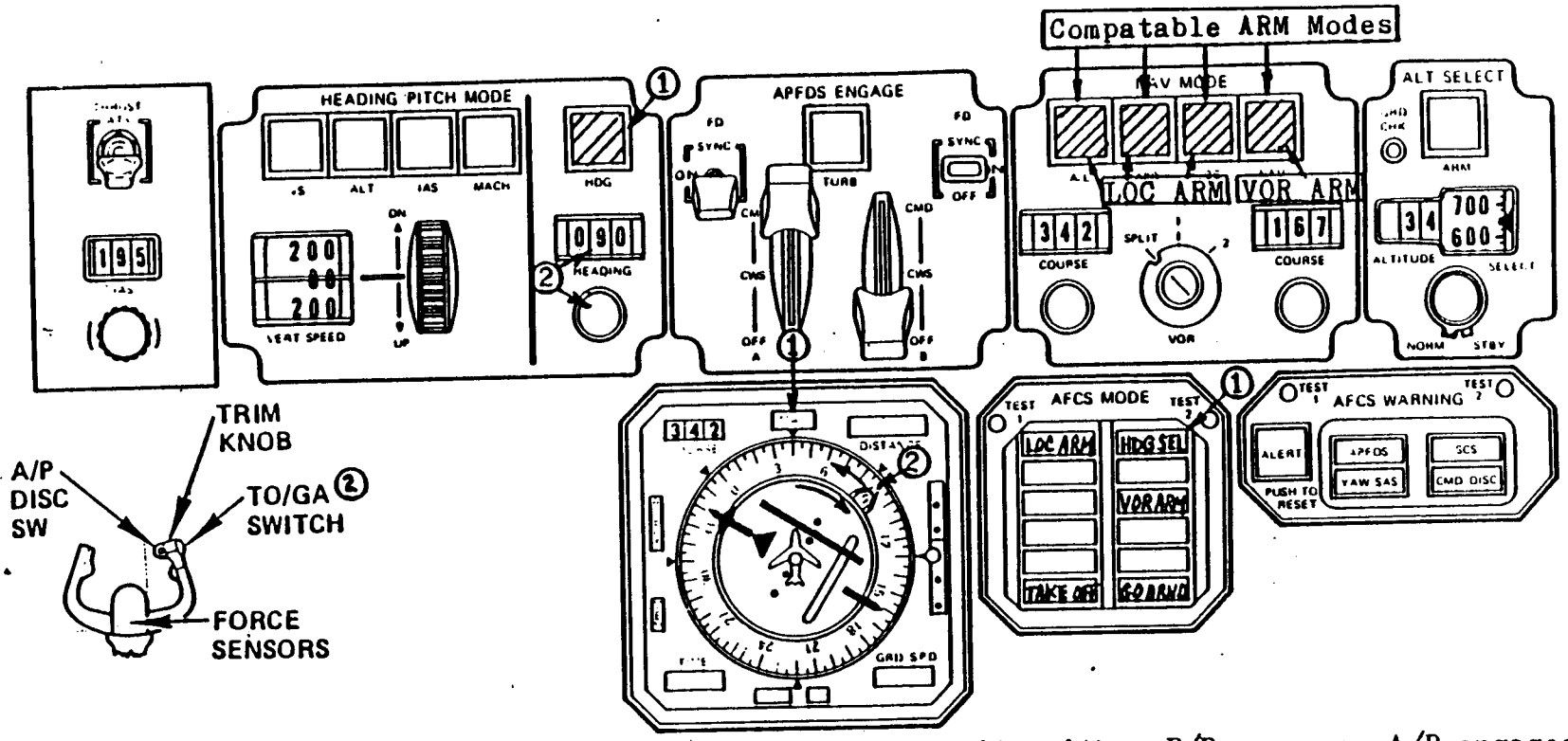
2- When $\Delta h=20\dot{h}$-V/S mode is dropped and ALT SEL CAPT mode is guiding A/C to desired altitude by ALT SEL error and ALT rate from CADC. TAS gain scheduled PAL=±18 deg. PRL=1.4 deg./sec. Flaps > 30 deg.=5 deg./sec.

3- When $\Delta h<8$ ft.-ALT ARM sw. lite and mode annunciation goes out and ALT hold sw. lite and annunciation comes on.

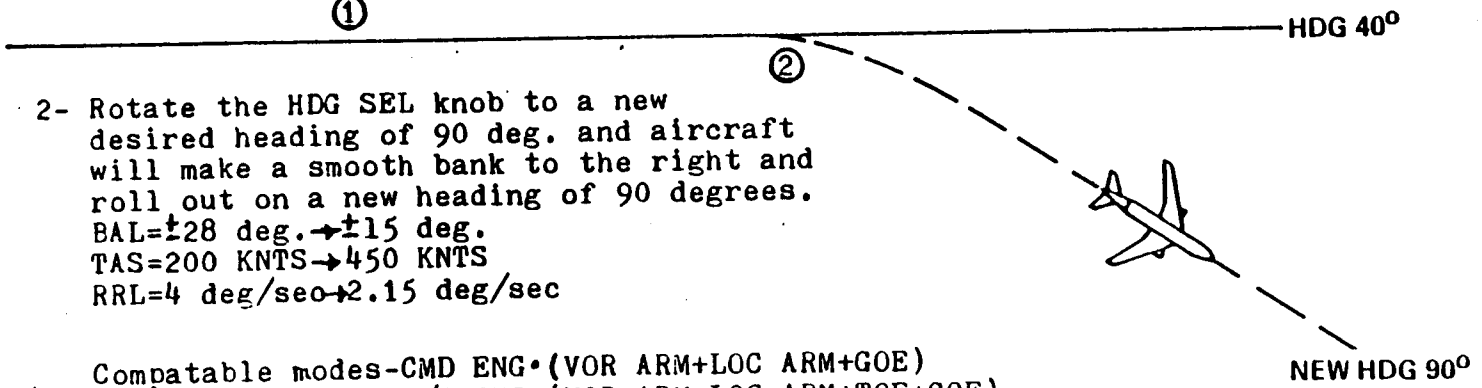
4- A & B- ALT SEL inop. unless ALT switched off and new ALT selected before ALT SEL sw. lite is depressed again.



ALTITUDE SELECT MODE



1- HDG mode may be selected by depressing the HDG sw. lite with a F/D on or an A/P engaged in the CMD position. The HDG sw. lite will illuminate and HDG SEL will be annunciated. The aircraft heading is 40 deg.



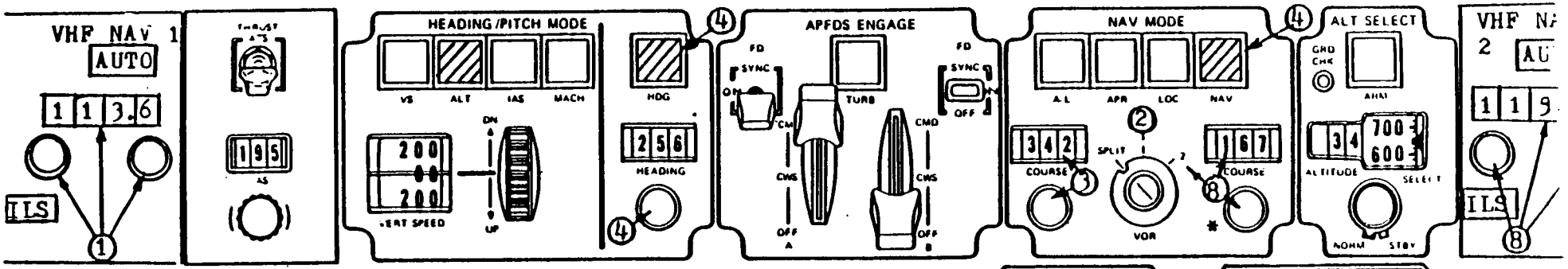
2- Rotate the HDG SEL knob to a new desired heading of 90 deg. and aircraft will make a smooth bank to the right and roll out on a new heading of 90 degrees.
BAL=±28 deg.→±15 deg.
TAS=200 KNTS→450 KNTS
RRL=4 deg/seo→2.15 deg/sec

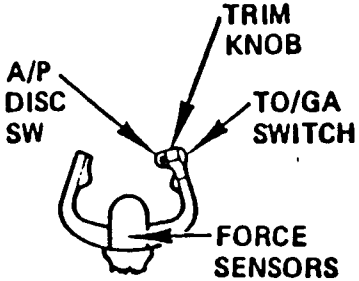
Compatable modes-CMD ENG•(VOR ARM+LOC ARM+GOE)
F/D ENG•(VOR ARM+LOC ARM+TOE+GOE)

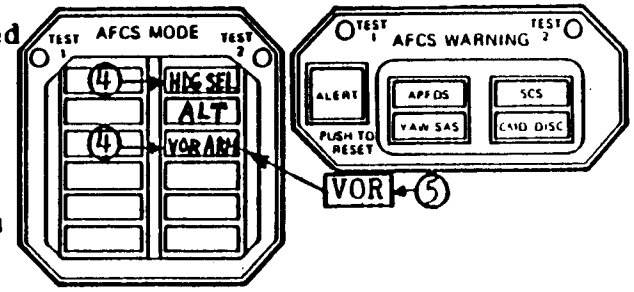
HDG SELECT MODE

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1- First leg VOR station is selected on VHF NAV CONT #1.

2- Split SW. is selected to #1 VOR.

3- #1 VOR course knob is selected to desired radial.

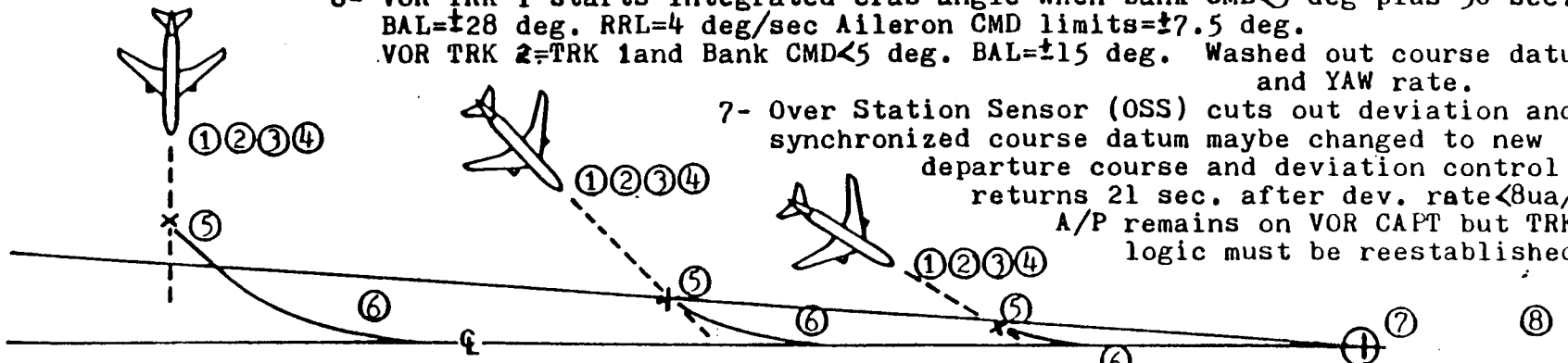
4- NAV mode sw. lite is depressed and VOR ARM annunciation appears if outside capture limits>220μa deviation. HDG sw. lite maybe selected and a desired intercept heading maybe selected with the heading select knob. HDG SEL annunciation appears.

5- VOR CAPT is variable=[DEV <220μa•Bank CMD>5 deg•(CRS DATUM•DEV RATE>DEV)] +[DEV<10μa•VOR SEL]

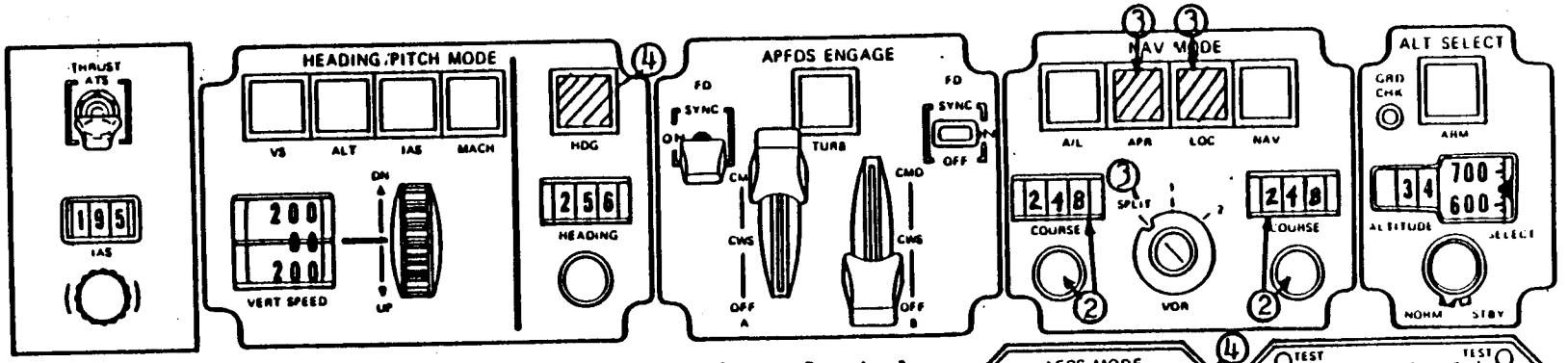
HDG SEL mode is dropped and VOR ARM annunciation changes to VOR.

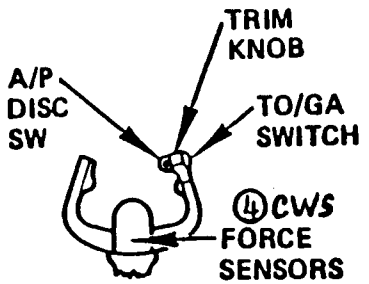
6- VOR TRK 1 starts integrated crab angle when bank CMD<5 deg plus 30 sec. BAL=±28 deg. RRL=4 deg/sec Aileron CMD limits=±7.5 deg. VOR TRK 2=TRK 1and Bank CMD<5 deg. BAL=±15 deg. Washed out course datum and YAW rate.

7- Over Station Sensor (OSS) cuts out deviation and synchronized course datum maybe changed to new departure course and deviation control returns 21 sec. after dev. rate<8ua/sec A/P remains on VOR CAPT but TRK logic must be reestablished.



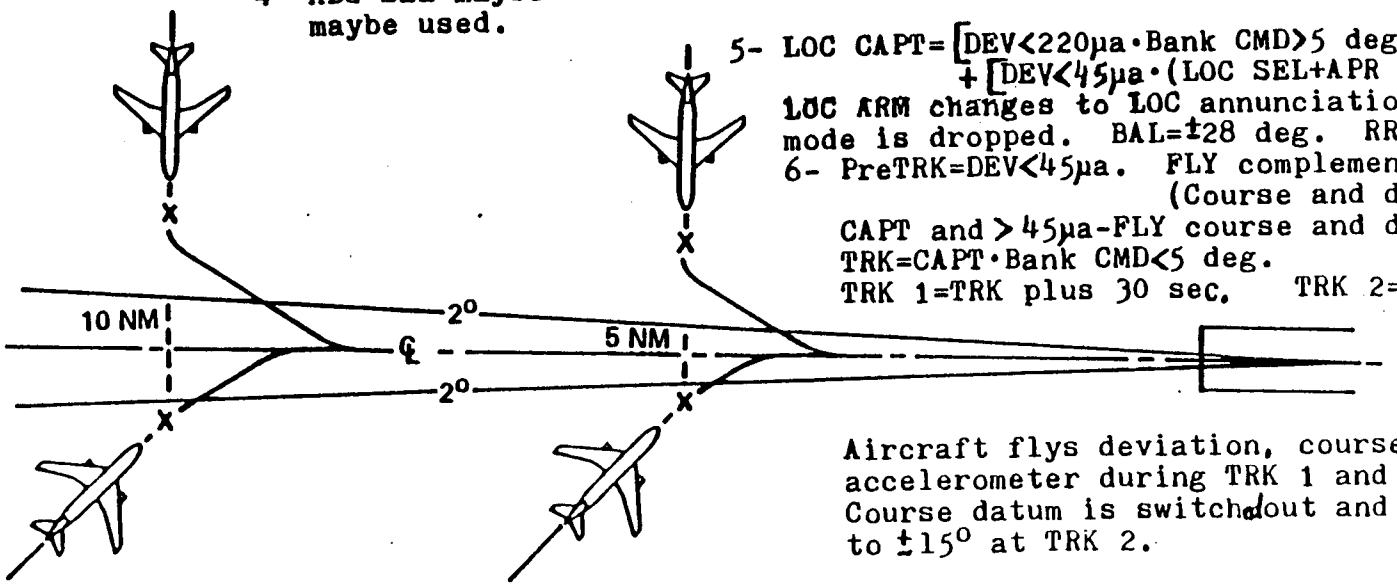
8- Next VOR station is selected on #2 VHF NAV panel and position #2 is selected on split switch. #2 course knob is selected to desired radial. Capture and TRK logic must be reestablished and A/C flys #2 VOR.





1- Airport LOC freq. is selected on one or both VHF NAV controls.
2- Runway heading is selected on both course knobs.
3- LOC or APR sw. lite is selected and split switch drops to split. LOC ARM is annunciated and also GS ARM if approach mode is sel. and outside capture limits.
4- HDG SEL maybe used for a desired intercept heading or CWS steering maybe used.

5- LOC CAPT= [DEV<220μa·Bank CMD>5 deg·DEV RATE>DEV] + [DEV<45μa·(LOC SEL+APR SEL)]
LOC ARM changes to LOC annunciation and HDG SEL mode is dropped. BAL=±28 deg. RRL=4 deg/sec.
6- PreTRK=DEV<45μa. FLY complemented radio rat (Course and dev. rate)
CAPT and >45μa-FLY course and dev. sig.
TRK=CAPT·Bank CMD<5 deg.
TRK 1=TRK plus 30 sec. TRK 2=TRK 1·BK CMD<



Aircraft flys deviation, course, and lateral accelerometer during TRK 1 and 2.
Course datum is switched out and BAL reduced to ±15° at TRK 2.

LOC MODE

DANA/NO DUAL STORY

AP on prior to A/L – DANA active, NO DUAL not active.

A/L until ALIGN – NO DUAL active and sets DANA latch. DANA inhibited. If DANA at A/L, it remains on and forces NO DUAL.

ALIGN until ROLLOUT – DANA and NO DUAL inhibited but stored by DANA latch. A latched DANA warning comes on when aircraft slows below 90 knots or AP is disconnected after A/L track. A latched DANA can only be reset by recycling 1A6 and 1A24 CB or when aircraft power is removed.

DANA RECALL warning – when DANA warning is latched on after aircraft arrives at the ramp and pilot does not report a NO DUAL warning.

A/L ENGAGE	LOC CAP	GS GAP	1500 FT RADIO ALT/ A/L TRACK	150 FT RADIO ALT/ ALIGN	50 FT RADIO ALT/ FLARE	5 FT RADIO ALT/ ROLLOUT GUIDANCE	TOUCHDOWN/ AGSB
DUAL A/L NOT AVAIL	LOC GS ARM A/L ARM	LOC GS A/L ARM	LOC GS A/L ALN ARM FLR ARM	LOC GS A/L ALIGN FLR ARM	LOC GS A/L ALIGN FLARE	LOC GS A/L ALIGN FLARE ROLLOUT	DUAL A/L NOT AVAIL
• A/L pressed. • A/L light comes on. • LOC ARM, GS ARM, A/L ARM modes are annunciated. • Second AP on.	• LOC mode is annunciated. • Airplane tracks LOC beam. • Pilots action.	• GS mode is annunciated. • Airplane NOSES OVER TO TRACK GS beam. • Approach gates appear.	• A/L TRACK mode is annunciated. • RUNWAY alignment is automatically armed. • Flare function is automatically armed. • Rudder goes into parallel operation. • Pitch trim bias is activated.	• ALIGN mode is annunciated. • Airplane aligns with RUNWAY and sets up CROSS-WIND CORRECTIONS. (The align command is a fwd slip command).	• FLARE mode is annunciated and flare is initiated. • Throttle levers move aft to FLIGHT IDLE at a rate of one knot per second.	• ROLLOUT mode is annunciated. • ROLLOUT guidance is in effect through rudder. • CMD bars disappear in both ADI. • YAW steering pointers appear in both ADI. • Approach gates disappear. • Speed approx. $1.2V_S$. • Throttle levers move aft to IDLE and STOP, and ATS disconnect automatically without ATS DISC message.	• Automatic ground spoilers deploy. • Autopilot lowers nosewheel smoothly (at a programmed rate) to RUNWAY. • Autopilot ROLLOUT guidance (controlling rudder and nosewheel) guides airplane along localizer beam center until disconnect.

- ILS FREQ SET
- AP A(B) CMD
- BOTH FD ON
- COURSE SET
- ATS BAT HANDLE ON

*Pilots Action
- Runway HDG on BUG.
- Gear down @ 2 dots GS deviation.
- Landing flaps > 30 deg.

ALPHA flag.
Speed controlled to $1.3V_S$ plus gust compensation and coupled go-around is armed
DLC becomes active.

AFCS WARNINGS

DUAL A/L NOT AVAIL: DANA ACTIVE WHEN AP A(B) SET TO CWS OR CMD → DANA INHIBITED (STORED FOR RECALL) → ACTIVE (LATCHED-IN) → DANA RECALL

NO ALIGN: NOT ACTIVE → ACTIVE (NON-LATCHING) → ACTIVE → NOT ACTIVE

NO DUAL: NOT ACTIVE → ACTIVE

NO GA: NOT ACTIVE → ACTIVE → NOT ACTIVE

NO FLARE: NOT ACTIVE

ATS DISC: ACTIVE

AUTO FLIGHT CHANNEL

SPEED: AIRSPEED MODE → ALPHA MODE (FLAPS POS > 30°) → THROT TO FLT IDLE → THROT TO IDLE & ATS DISC

PITCH: PITCH RATE LIMIT ± 1.4°/S → PITCH RATE LIMIT ± 5°/S @ FLAPS > 30° OR A/L TRK → PITCH RATE LIMITS +5, -1.4°/SEC → NOSE DN BAIS (1.2°/SEC)
21 LB PITCH FORCE TO OVERRIDE AP → HIGH PITCH HOOK AUTHORITY (44 LB PITCH FORCE TO OVERRIDE AP)

ROLL: 35 DEG ROLL LIMIT → 10 DEG ROLL LIMIT → 5 DEG ROLL LIMIT → 0 DEG ROLL LIMIT

YAW: (TURN COORDINATION) FLAPS CHG GAIN → NO TC AFTER LOC TRK → TC WITH LOW GAIN → NO TC, FWD SLIP ALIGN CMD → PROCESSED ROLLOUT AND YAW RATE GUIDANCE
RUDDER PEDAL IN PARALLEL OPERATION → NOSE WHL STEERING

PITCH TRIM DLC/AGS: AUTO TRIM → NOSE DN BIAS & AUTO TRIM → NOSE UP BIAS AND AUTO TRIM → MAN. TRIM
NOT ACTIVE → DLC ACTIVE (FLAP HANDLE POSITION > 30°) → AGS ACTIVE

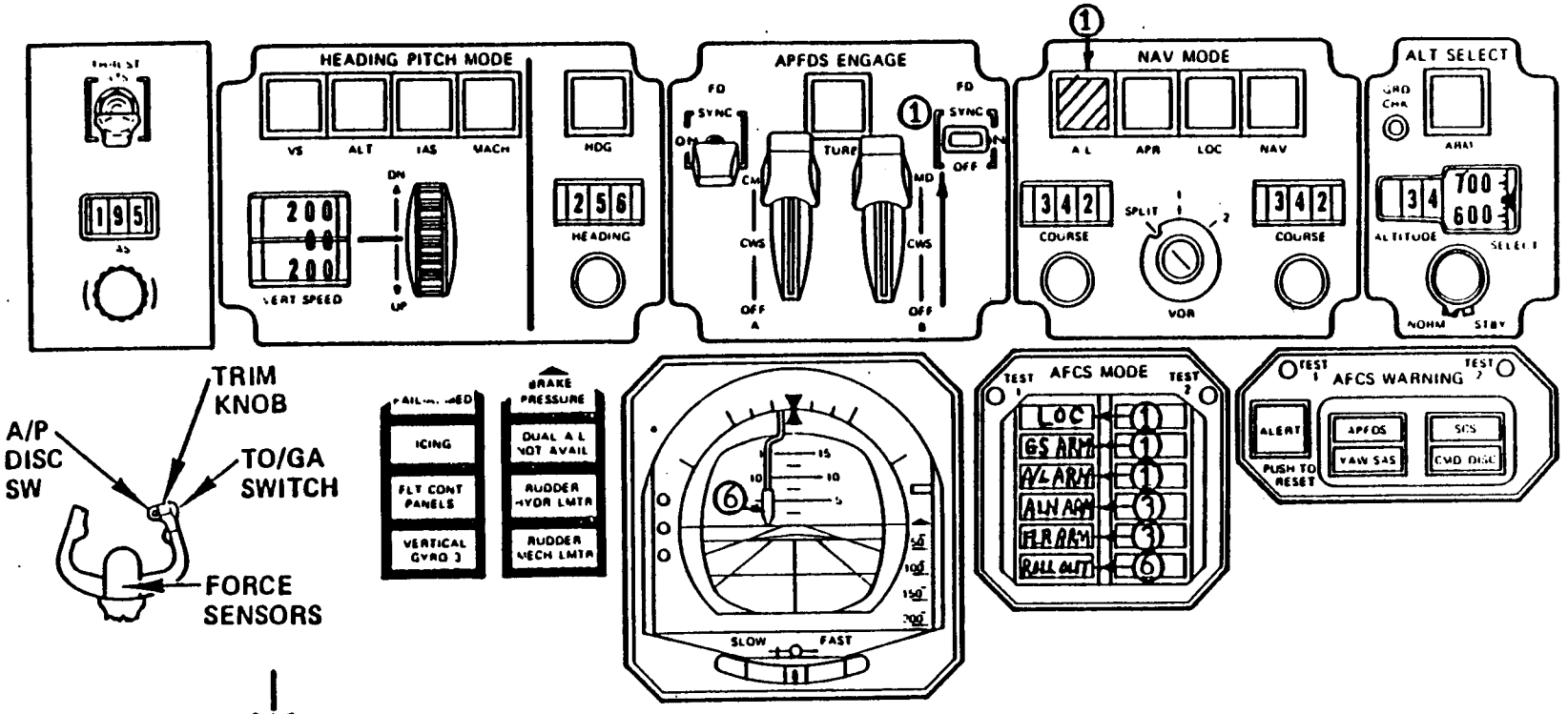
ADI

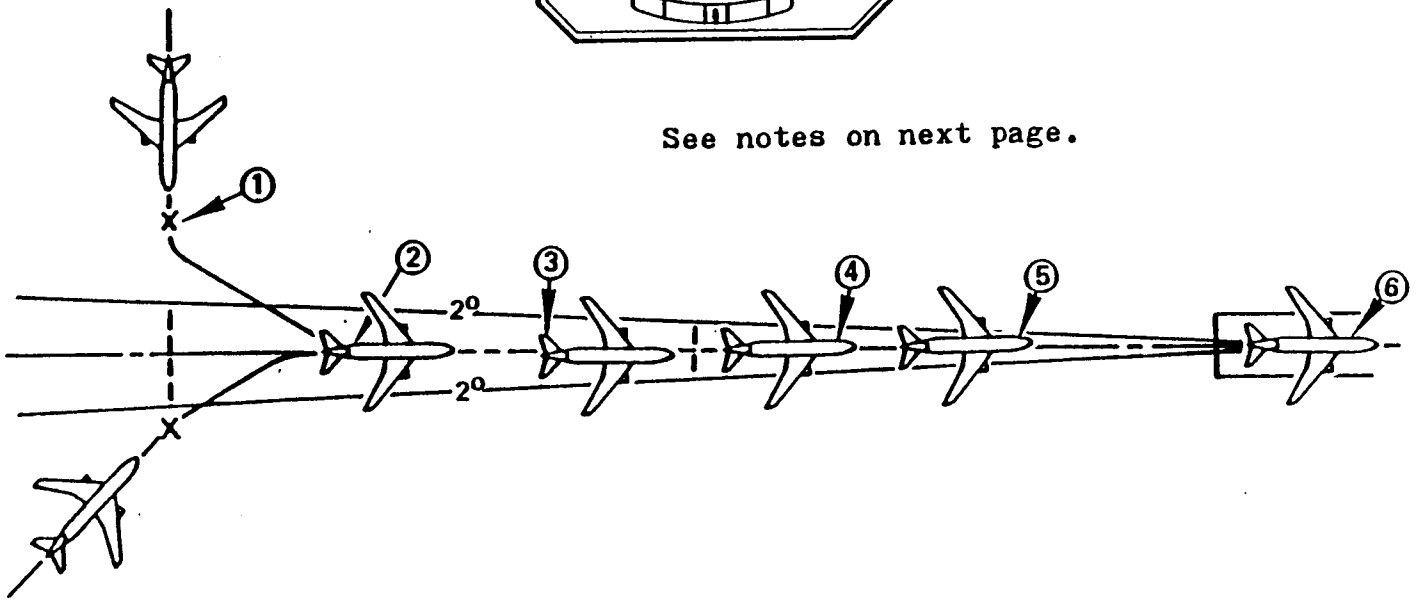
YAW STEERING PTR: NOT-IN-VIEW → IN-VIEW → GOES-OUT-OF-VIEW

APPROACH GATE: NOT-IN-VIEW → IN-VIEW → GOES-OUT-OF-VIEW

COMMAND BARS: IN-VIEW → IN-VIEW → GOES-OUT-OF-VIEW

AUTOLAND OVERVIEW



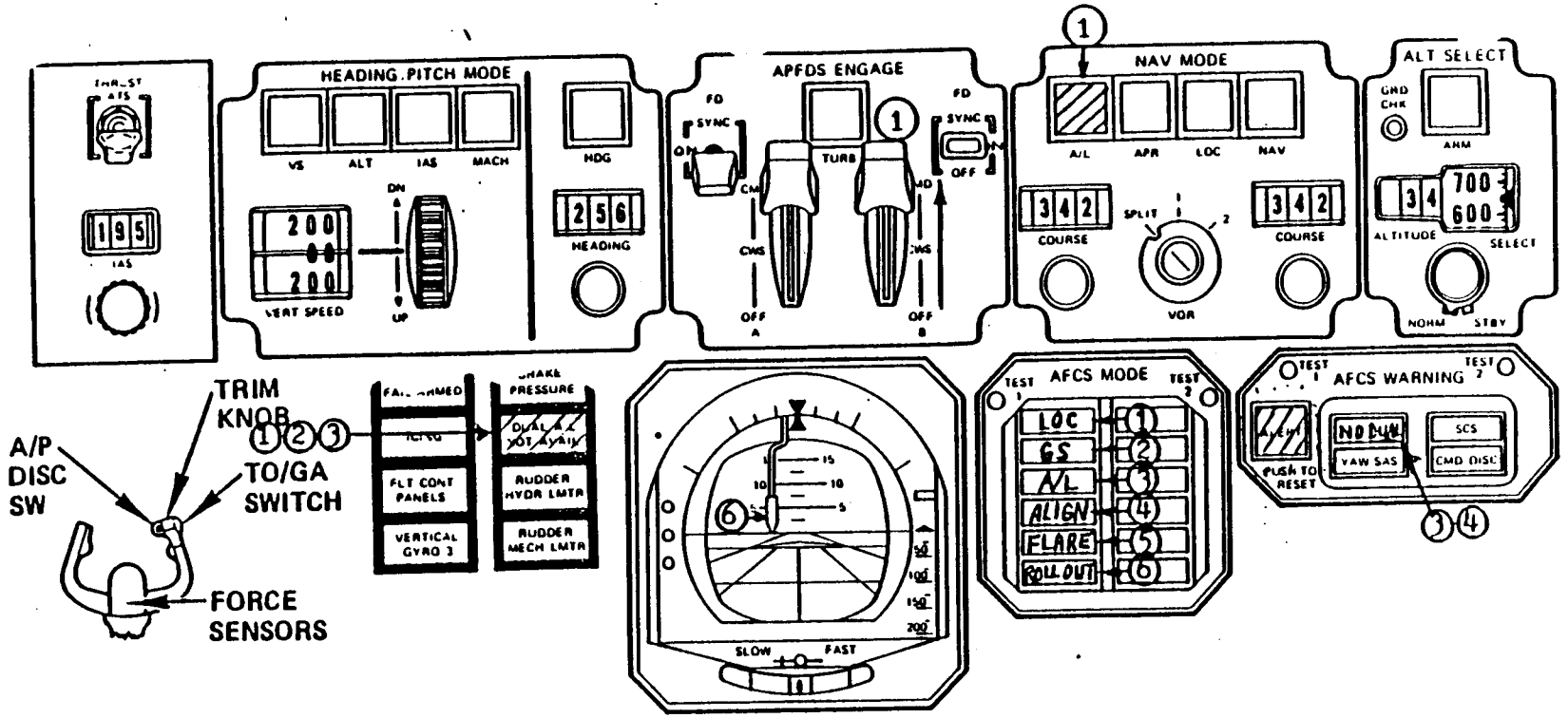


See notes on next page.

T-22-10-0100-028

A/L MODE-LOC

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(1) "A" A/P prev. eng. A/L is selected. "B" A/P is engaged. LOC CAPT with LOC annunciation. TRK 2=TRK plus 30 sec and BK CMD<5° BAL=±15°
First failure before A/L TRK illuminates DUAL A/L NOT AVAIL on center caution and warning panel that flashes for 10 sec. and then steady.

(2) GS CAPT-GS annunciated.
GS TRK=CAPT plus 20 sec.

(3) A/L TRK=GS TRK·1500 ft R/A with A/L annunciation and Align ARM and FLARE ARM annunciation.
First failure annunciates NO DUAL on AFCS WARNING panel. A second like failure causes A/P disconnect.

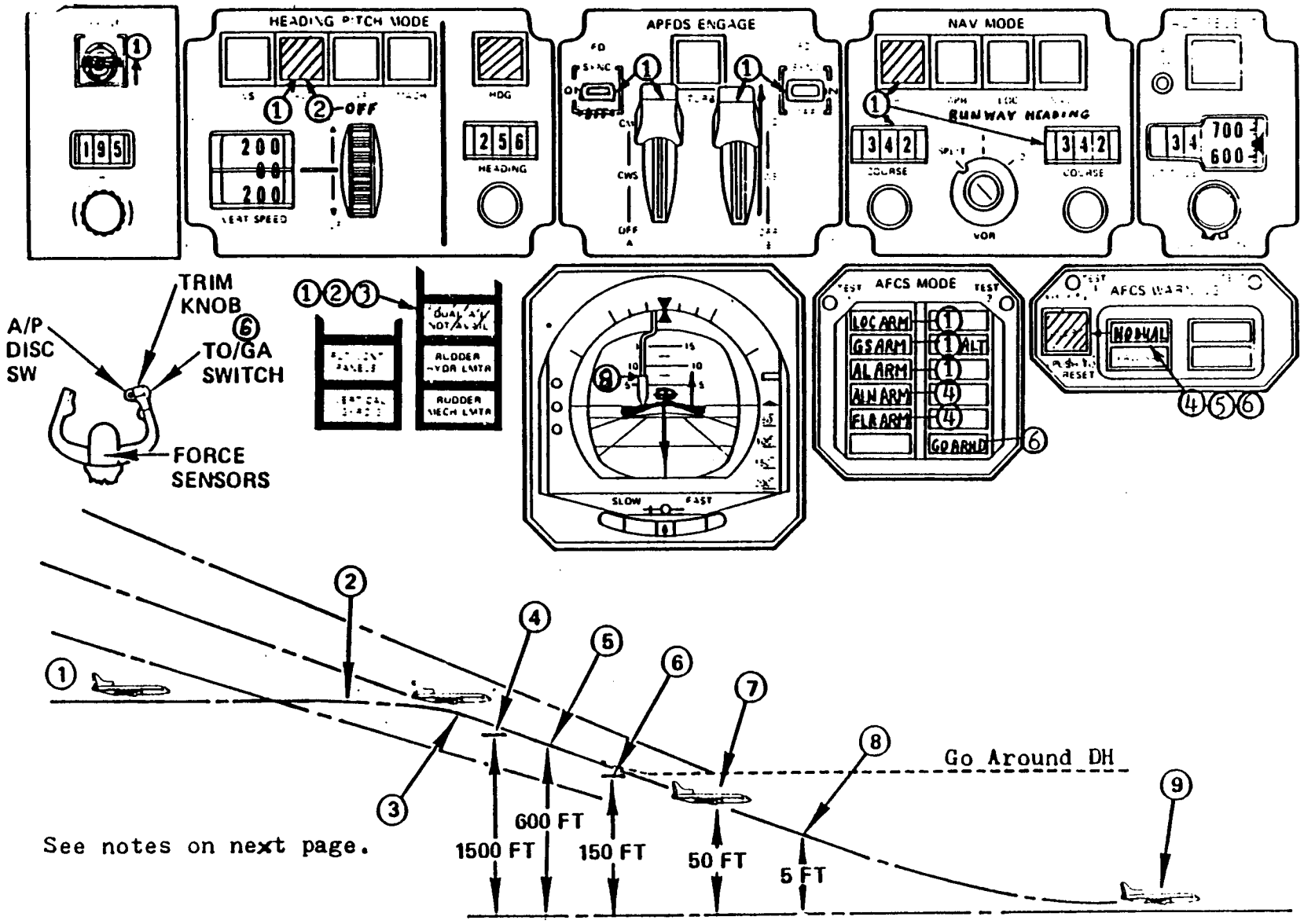
(4) ALIGN mode from YAW SAS at 150 ft. R/A with ALIGN annunciation. Decrab and forward slip is initiated BAL=±5°

(5) FLARE mode with FLARE annunciation.

(6) ROLL OUT mode annunciated from YAW SAS at 5 ft. R/A with CMD BAR and APPROACH GATE biased out of view and ROLL OUT pointer in view.
The rudder is faired and follows LOC DEV and lateral acceleration with nose steering on nose compression. Wings start to level.

NO DUAL annunciation inhibited after ALIGN mode.

A/L MODE – LOC (SHEET 2)

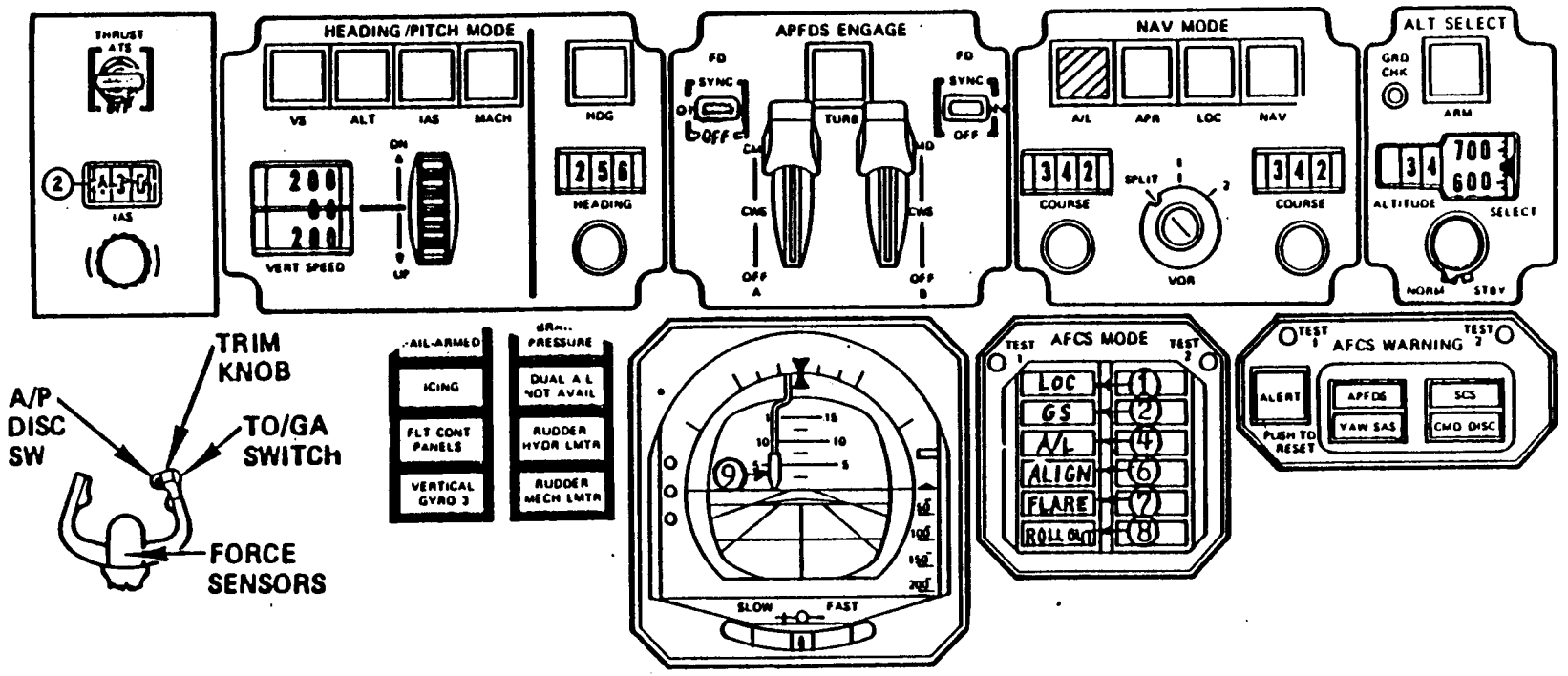


See notes on next page.

T-22-10-0100-030

A/L MODE-GLIDE SLOPE

L-1011
3 72



① A/P "A" ENG-A/L is SEL-A/P "B" ENG-ALT ENG-Capt LOC-LOC ANNUN-1st FAIL-DUAL A/L

② NOT AVAIL ANNUNCIATED GS CAPT-GS ARM & ALT off-GS ANNUN-ND Bias

③ GS TRK-20 sec. after GS CAPT-Dev. control with integration-Loss of Radio ALT=Disengagement

④ AL TRK at 1500 ft-A/L annunciated-A/L ARM off-Align ARM & FLARE ARM annunciated-1st FAIL= NO DUAL annunciation-2nd like failure will cause A/P disconnect.

⑤ GS gain attenuated by radio altimeter from 100% at 600 ft. to 0% at 50 ft.

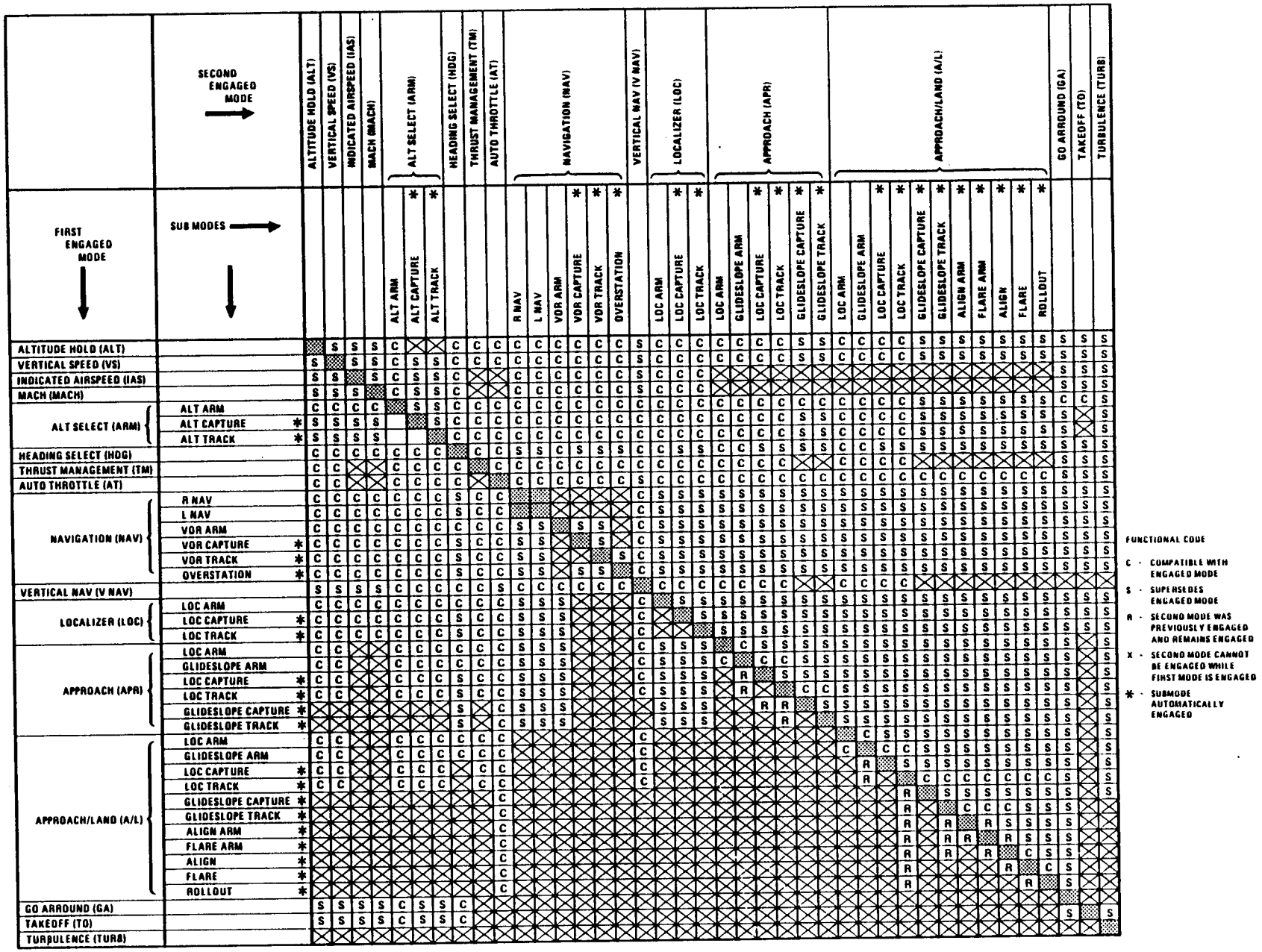
⑥ YAW SAS ALIGN mode-Decrab and forward slip maneuver-Max 8 deg. decrab=4 deg. bank-ALIGN ARM annunciation changes to ALIGN.

⑦ FLARE mode-Synchronized rate of sink washed out by radio ALT gain control to uncover ND command from established rate of sink on glide slope descent. FLARE ARM to FLARE annunciation.

⑧ ROLL OUT annunciated by YAW SAS computer- F/D CMD bar and approach gate out and R/O in view.

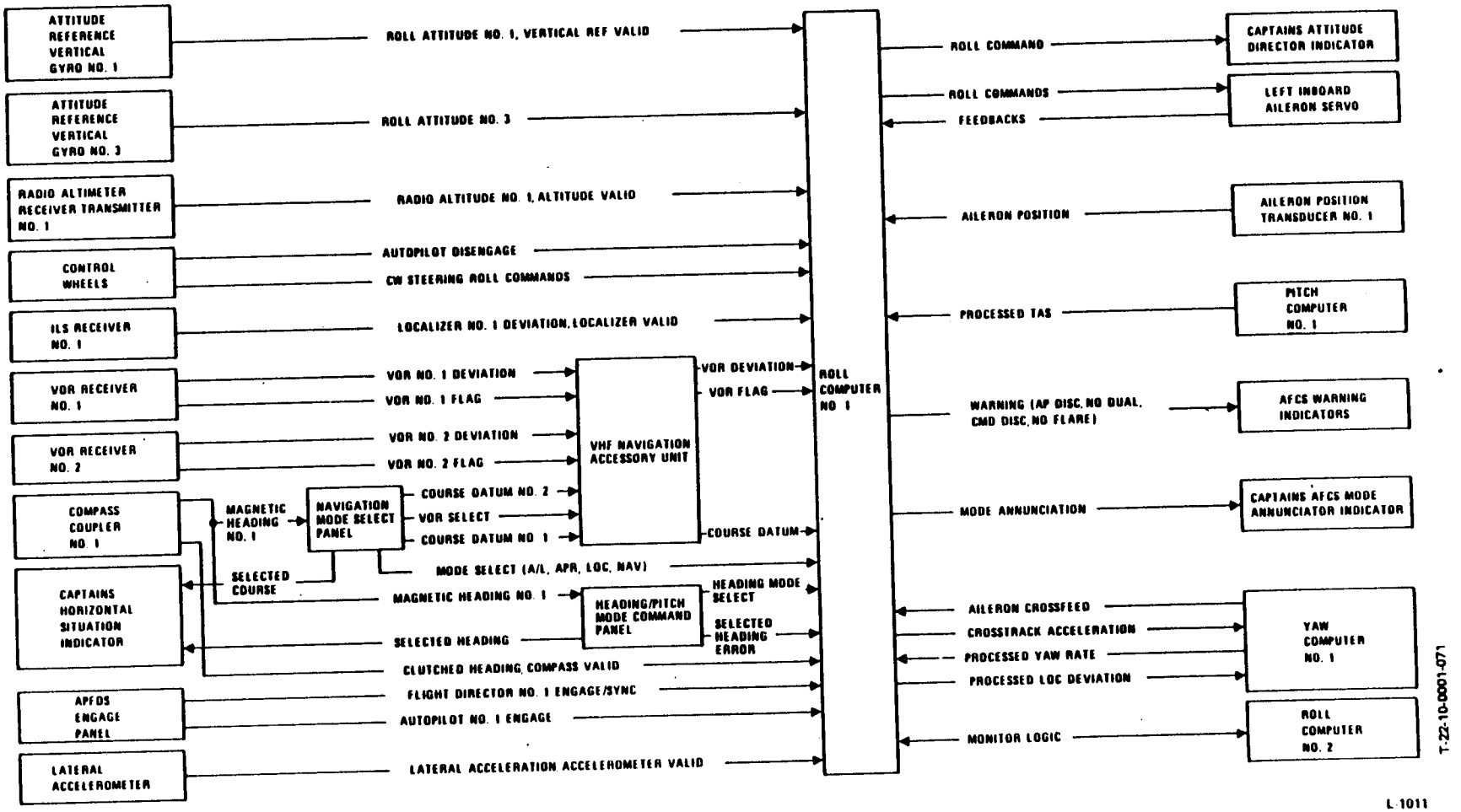
⑨ Pilot monitors A/C and Roll Out pointer. Rudder and nose steering on nose strut compressio follow localizer guidance down runway.

A/L MODE G.S. (SHEET 2)



AP/FDS MODES MATRIX

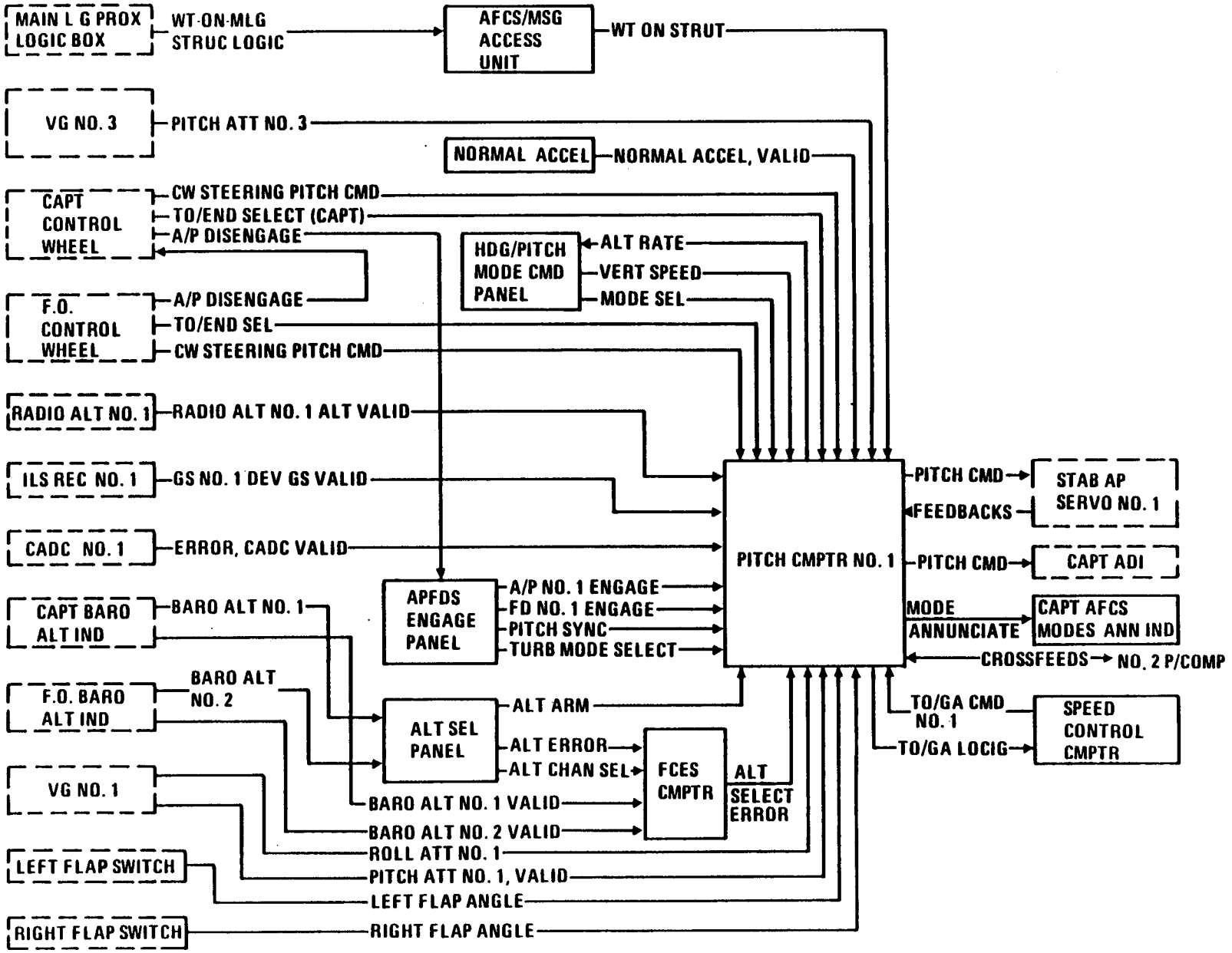
FOR TRAINING PURPOSES ONLY



L 1011
5/73

ROLL SYSTEM CHANNEL 1 BLOCK DIAGRAM

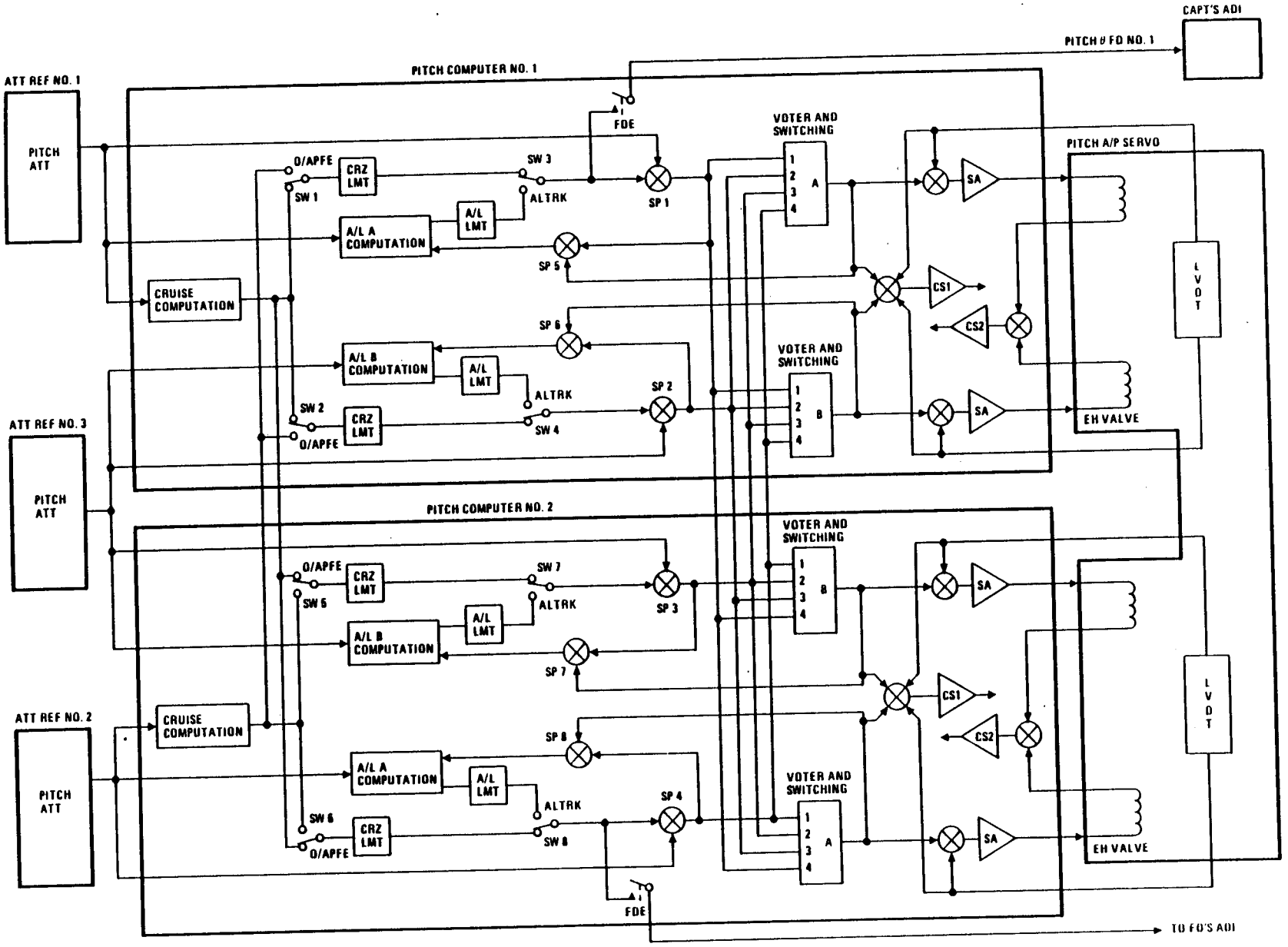
T 22 10 0001 071



T22-10-0100-065

PITCH INTERFACE BLOCK DIAGRAM

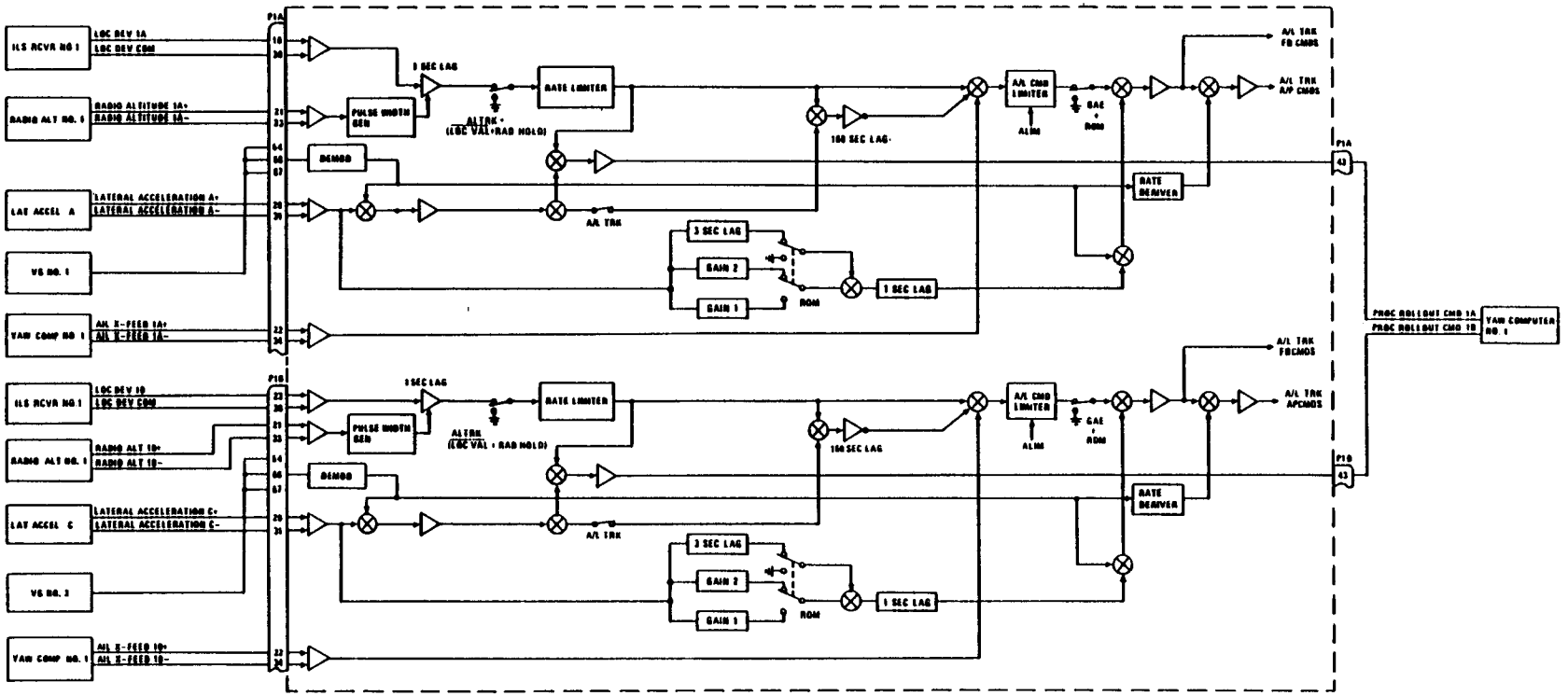
L/1011
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T- 22-10-0003-002

COMPUTER SIGNAL FLOW

L-1011

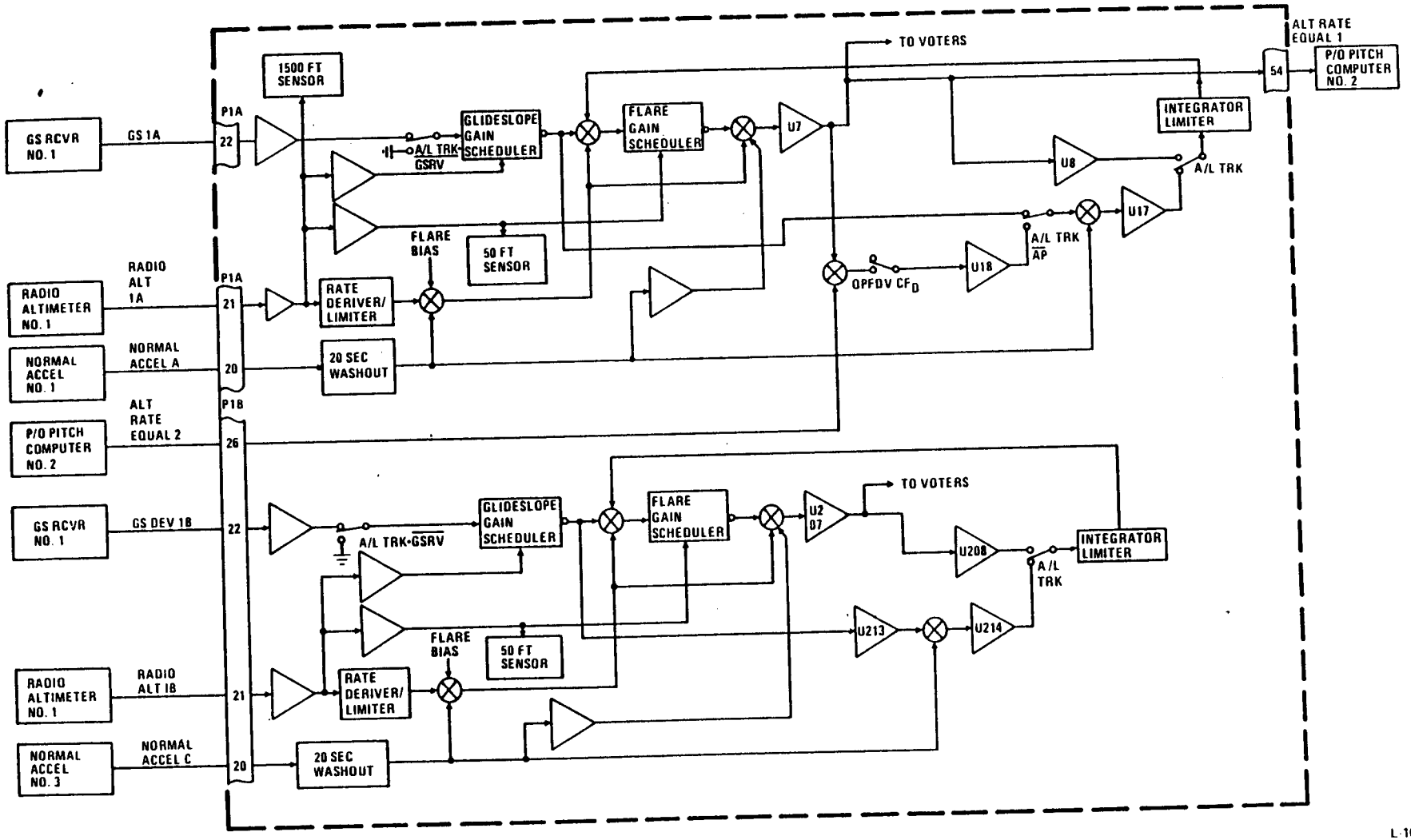


T 22 10 0002 050

ROLL COMPUTATIONS (A/L)

T-22-10-0002-050

L 1011
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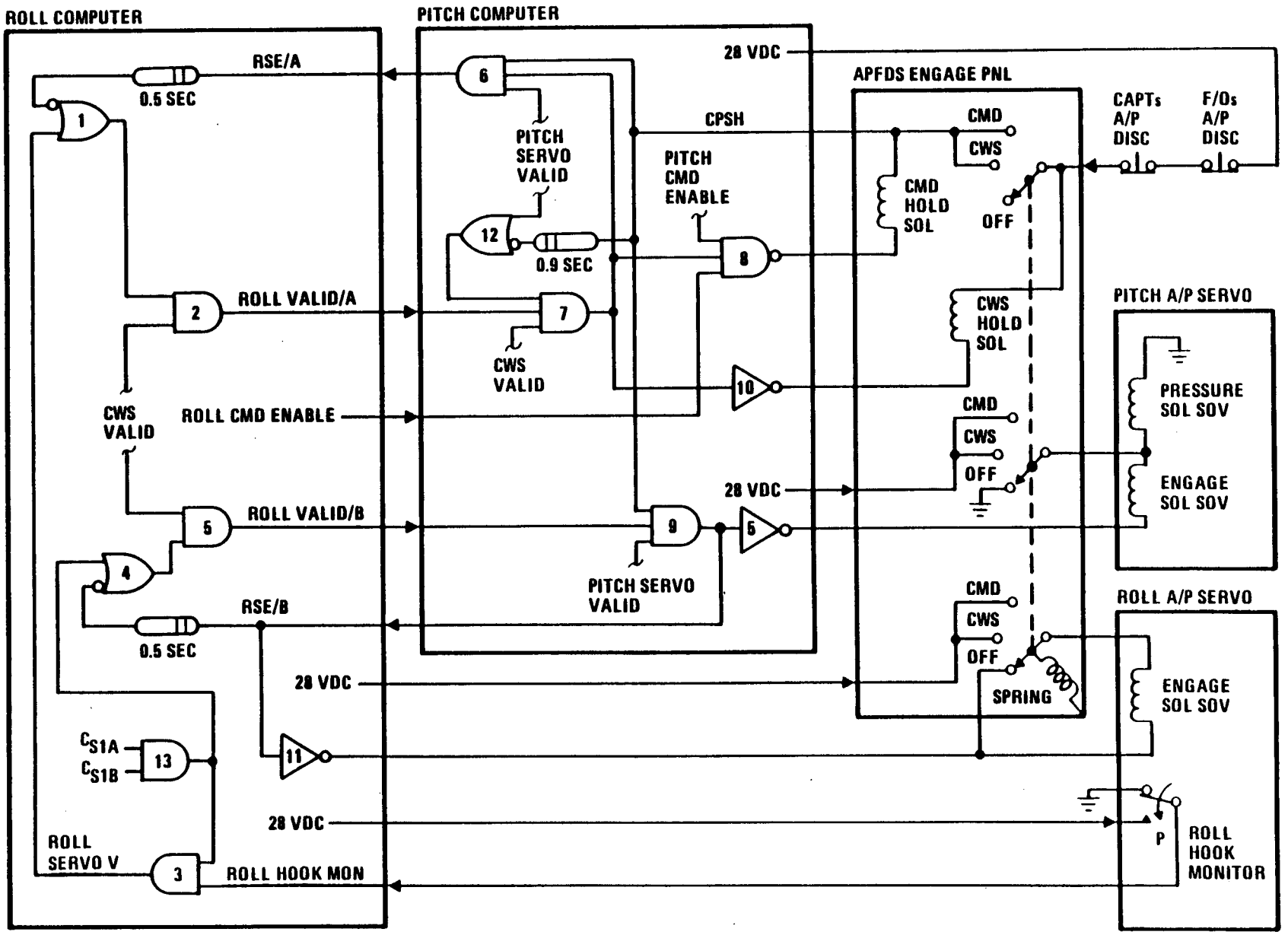


T-22-10-0003-033

L-1011
11/74

PITCH A/L MODE

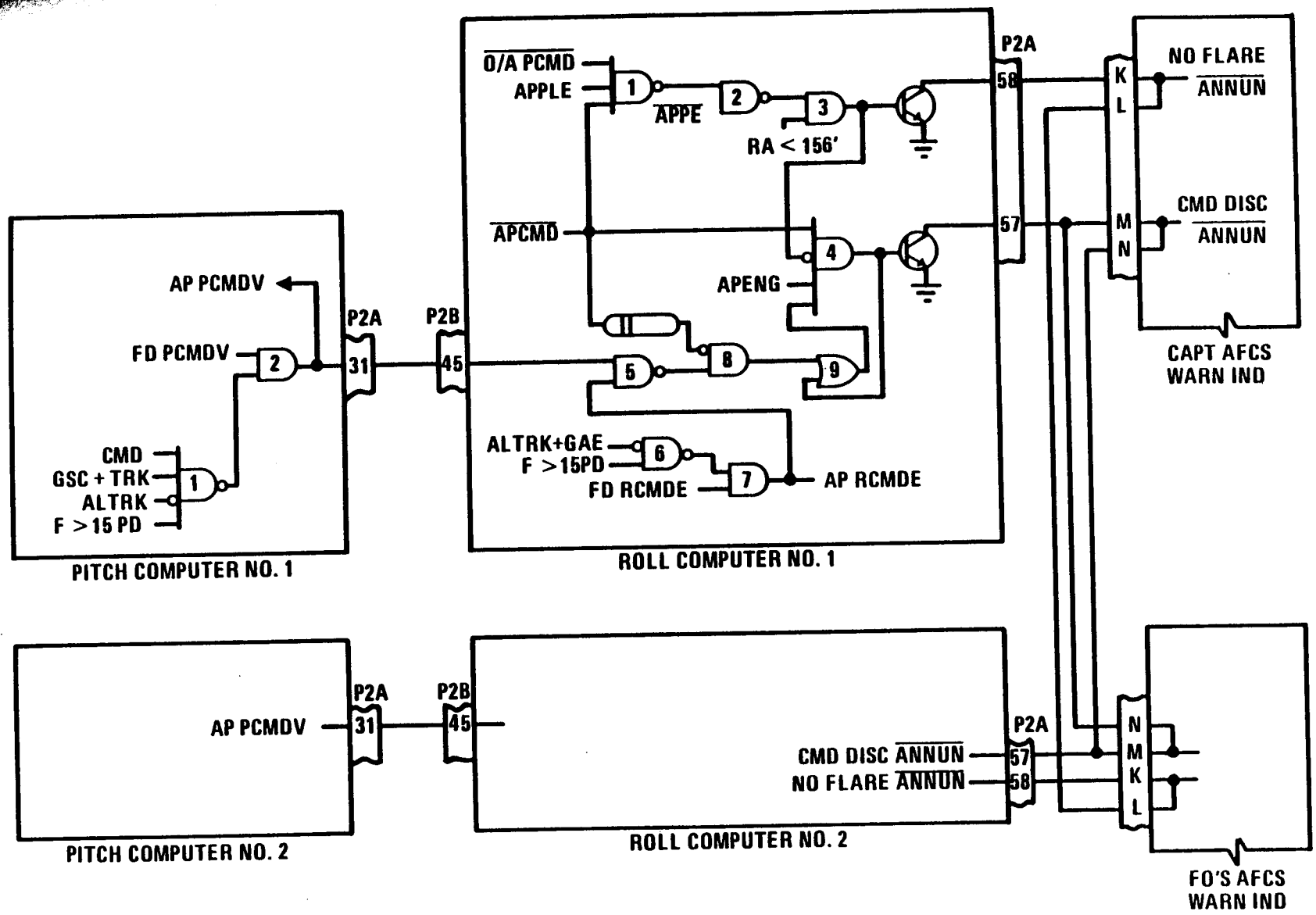
T-22-10-0003-033



T-22-10-0004-469

A/P SIMPLIFIED ENGAGE LOGIC

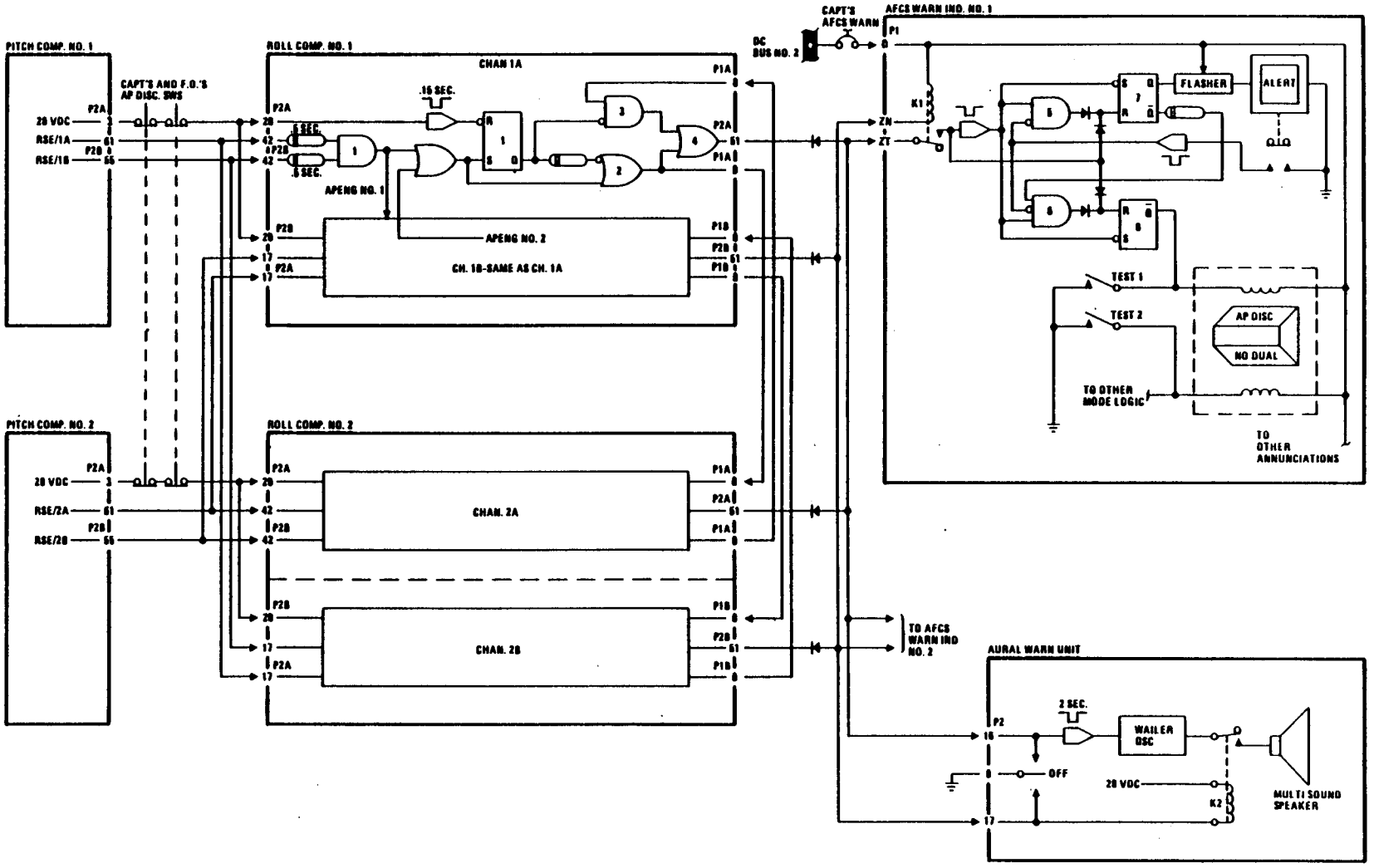
L-1011



T-22-10-0001-455

CMD DISCONNNECT ANNUNCATION LOGIC

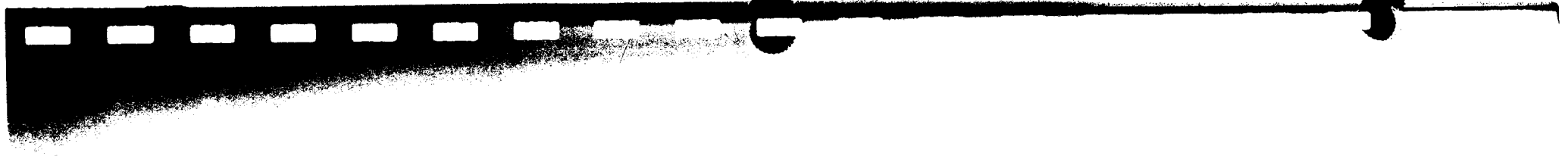
L-1011
11/74

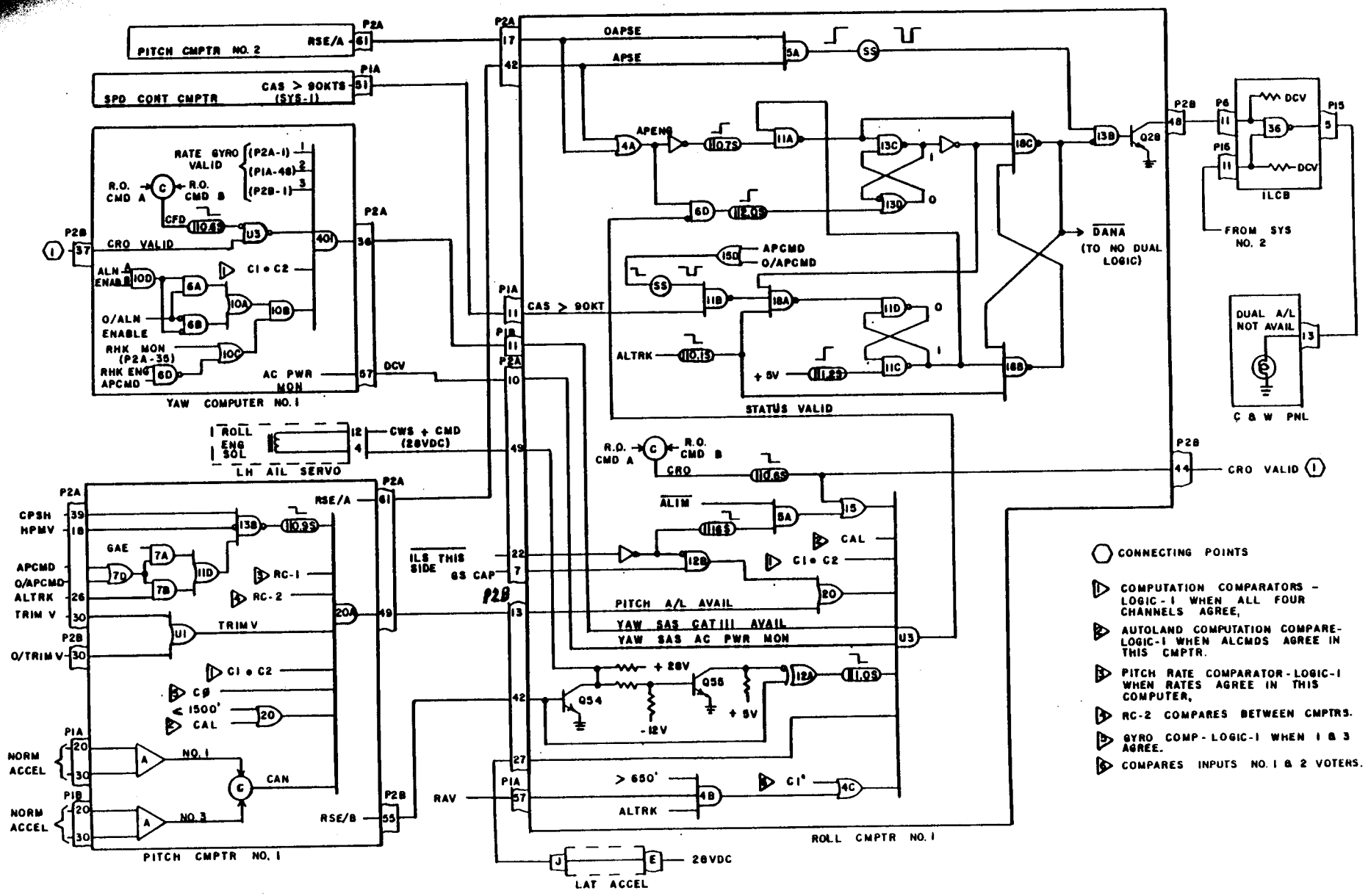


T-22-10-0000-208

AP DISCONNECT LOGIC

L-1011
2 / 82

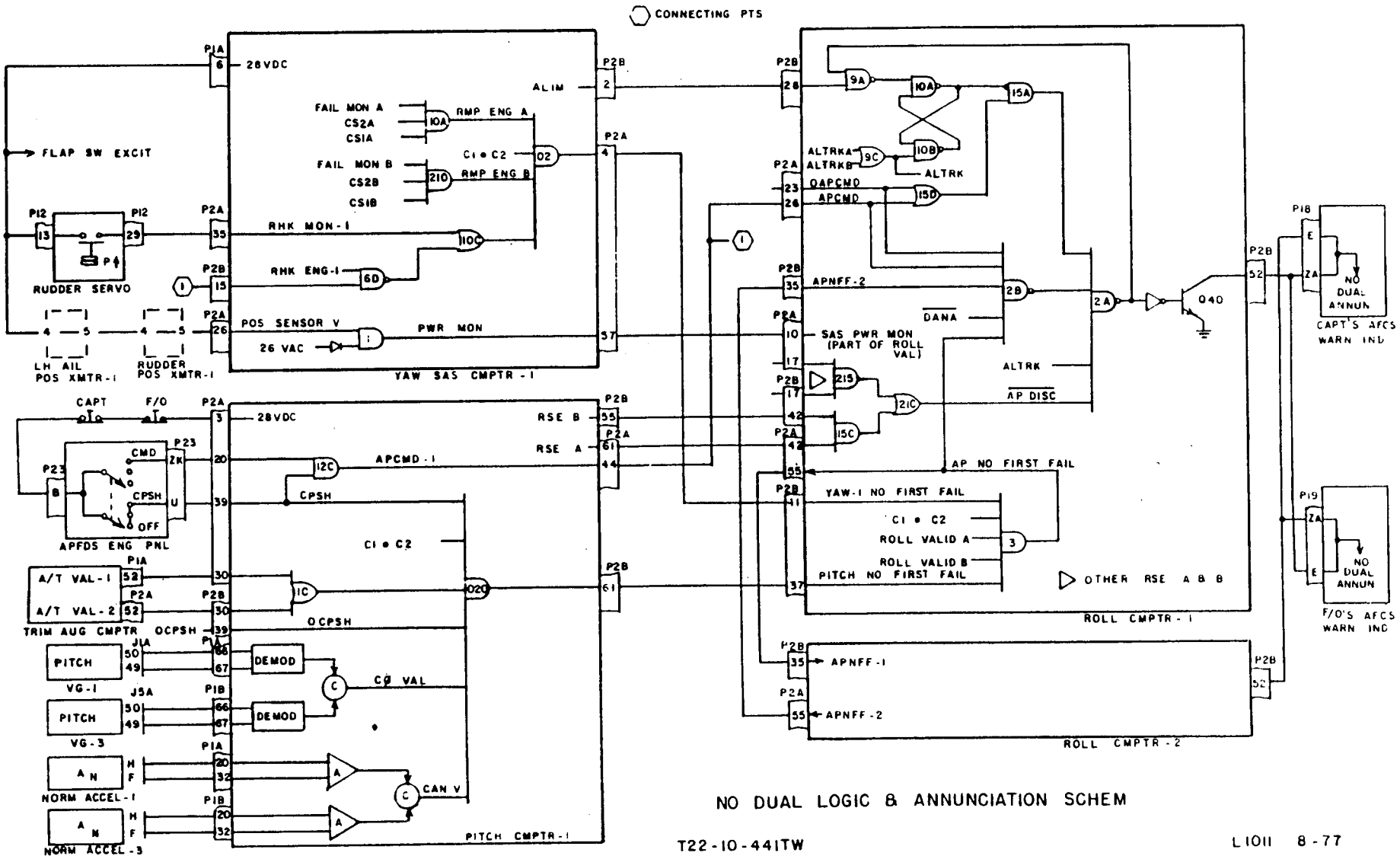




T22-10-326

DUAL A/L NOT AVAILABLE LOGIC SCHEMATIC

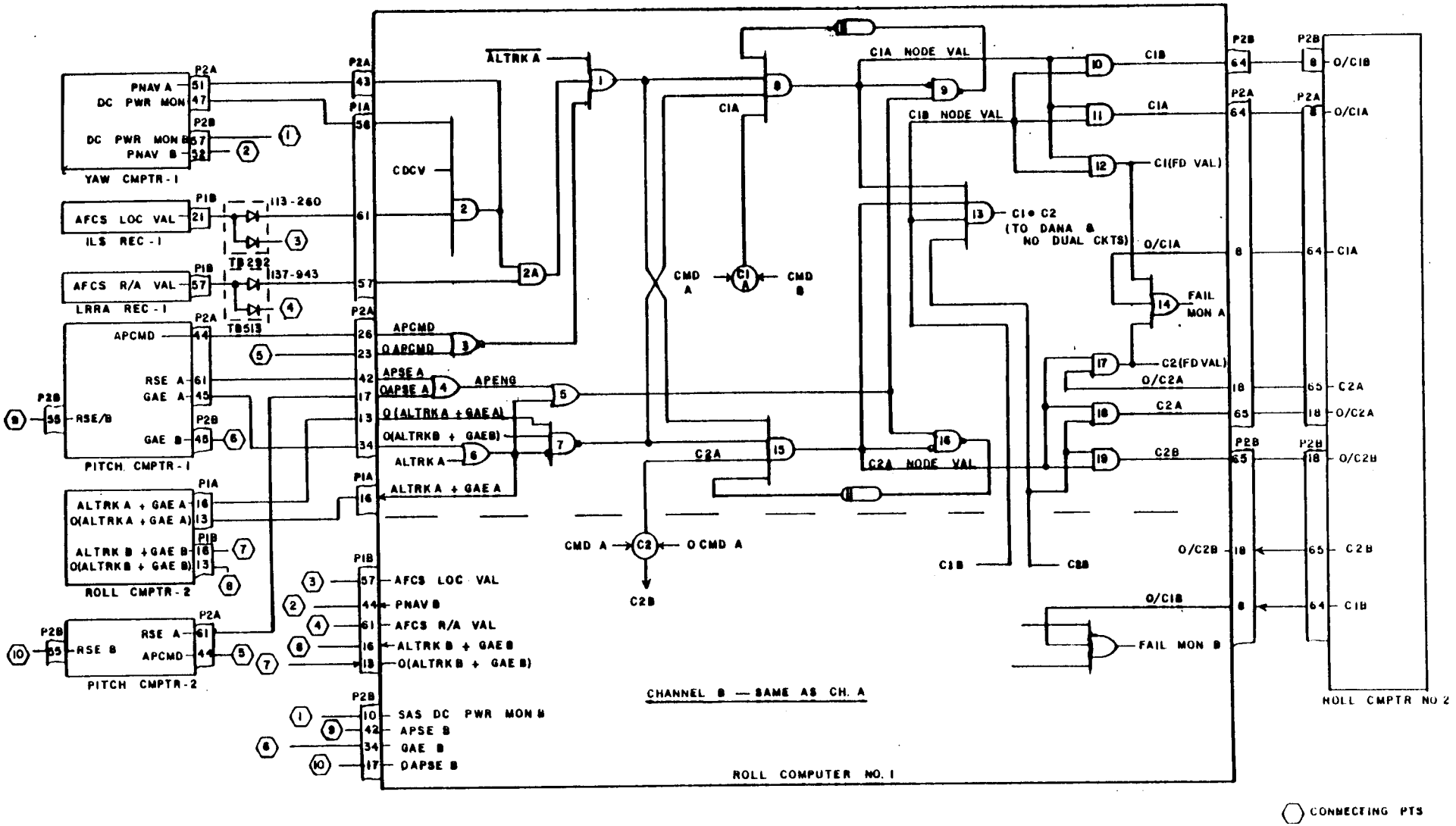
L1011
10-78



NO DUAL LOGIC & ANNUNCIATION SCHEM

T22-10-441TW

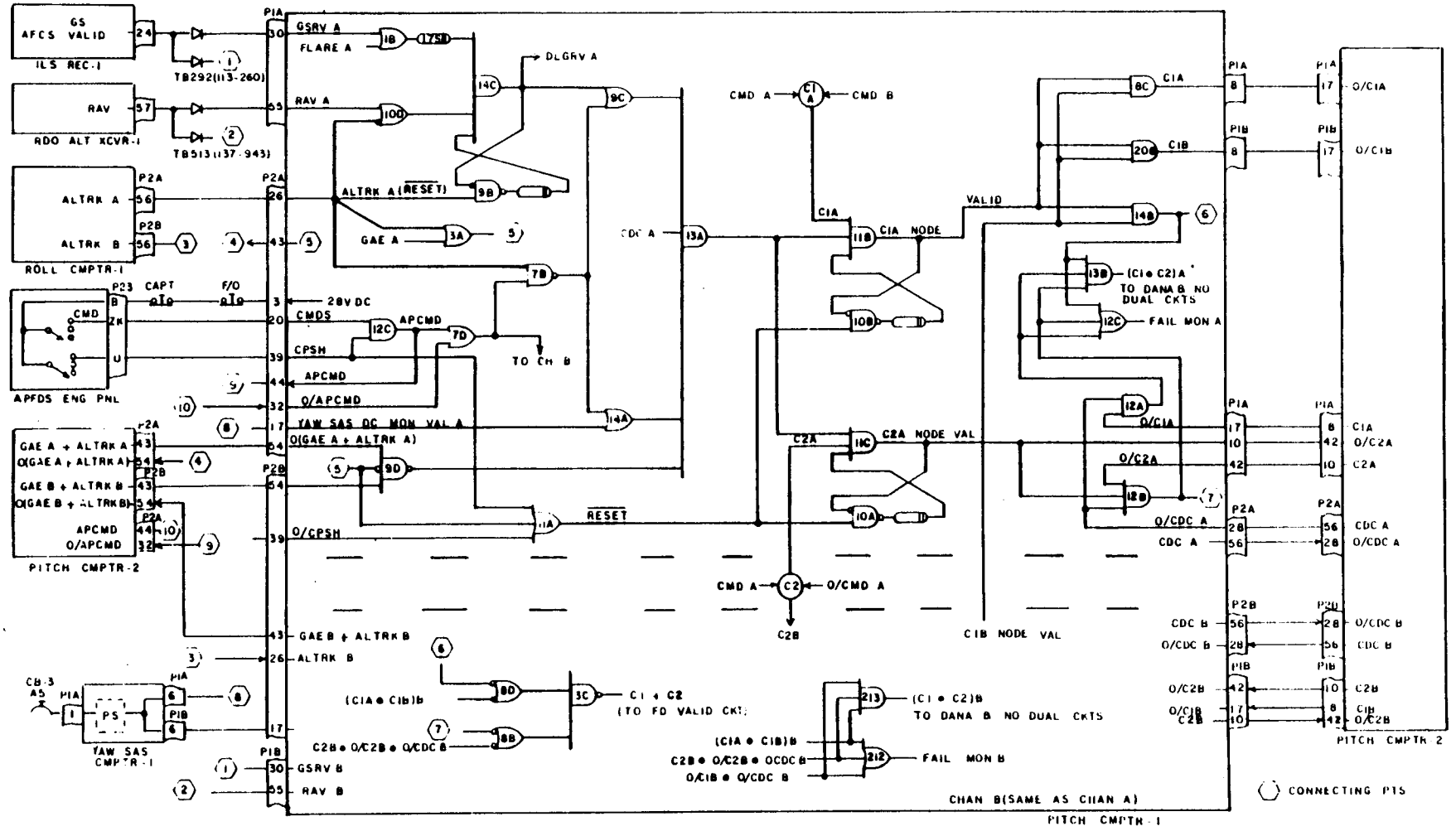
L1011 8-77



T22-10-433 (TW)

AFCS ROLL COMPARATORS MONITORING LOGIC SCHEMATIC

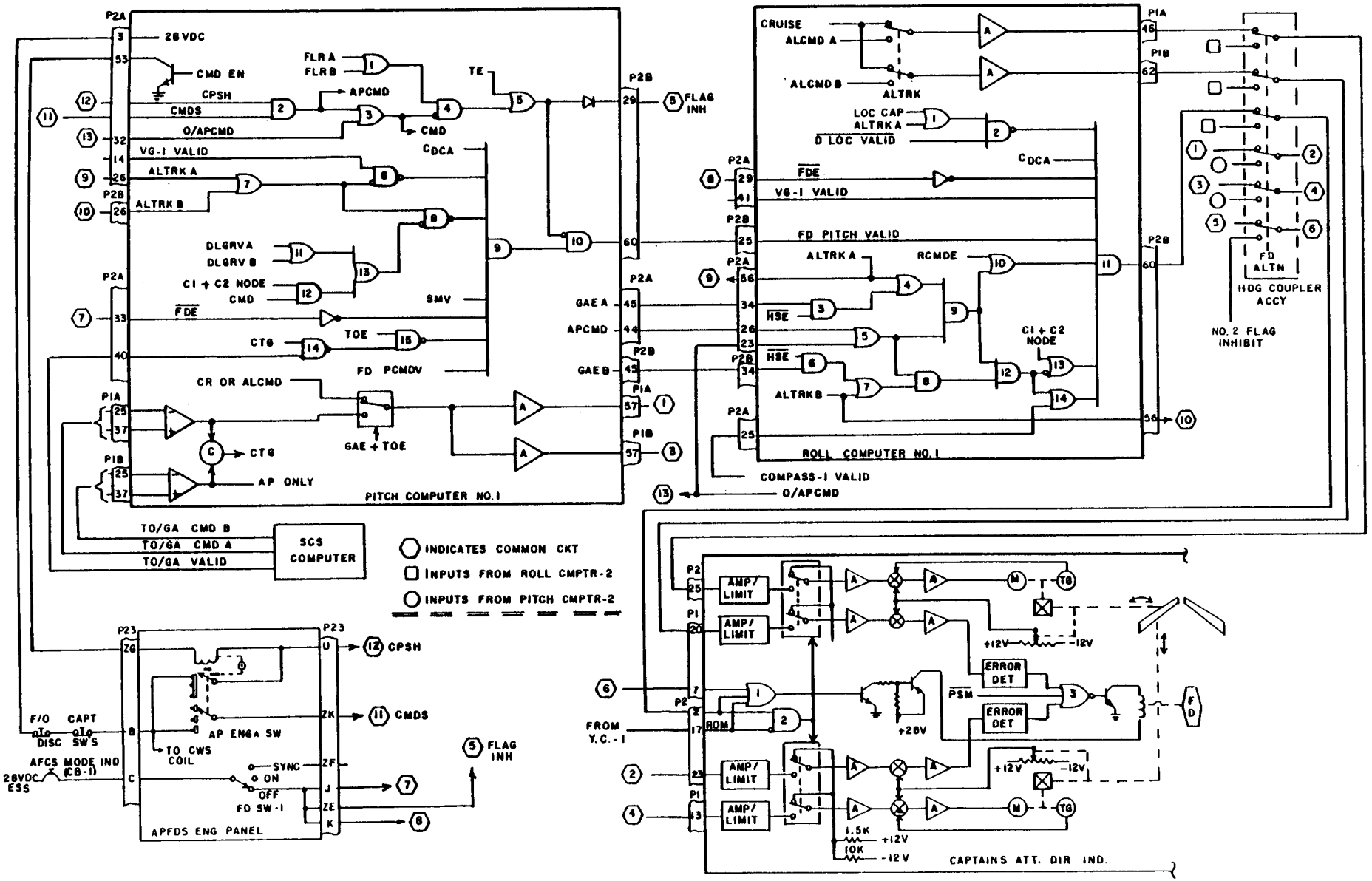
LIOII
7-77



T22-10-45Q(TW)

AFCS PITCH COMPARATORS - MONITORING LOGIC SCHEMATIC

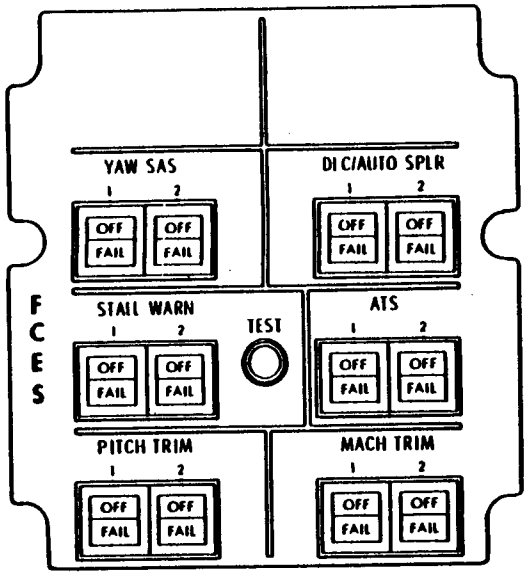
L1011 7-77



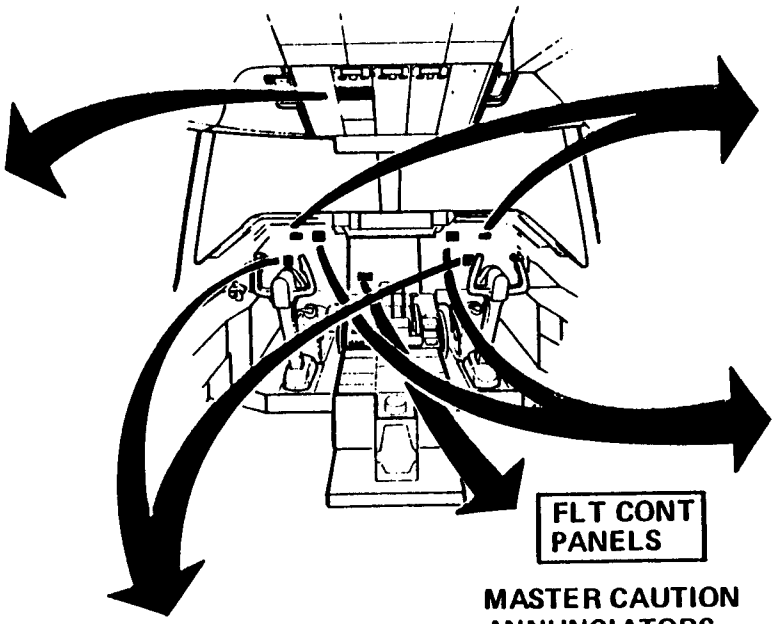
TW22-10-438

FLT. DIRECTOR FUNCTIONAL SCHEMATIC

L1011
9-79



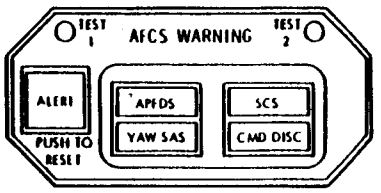
FCES CONTROL PANEL



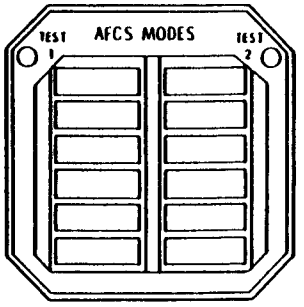
FLT CONT PANELS

MASTER CAUTION ANNUNCIATORS

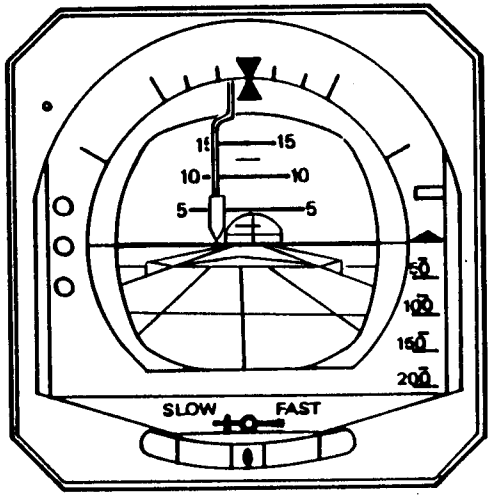
DUAL A/L NOT AVAIL



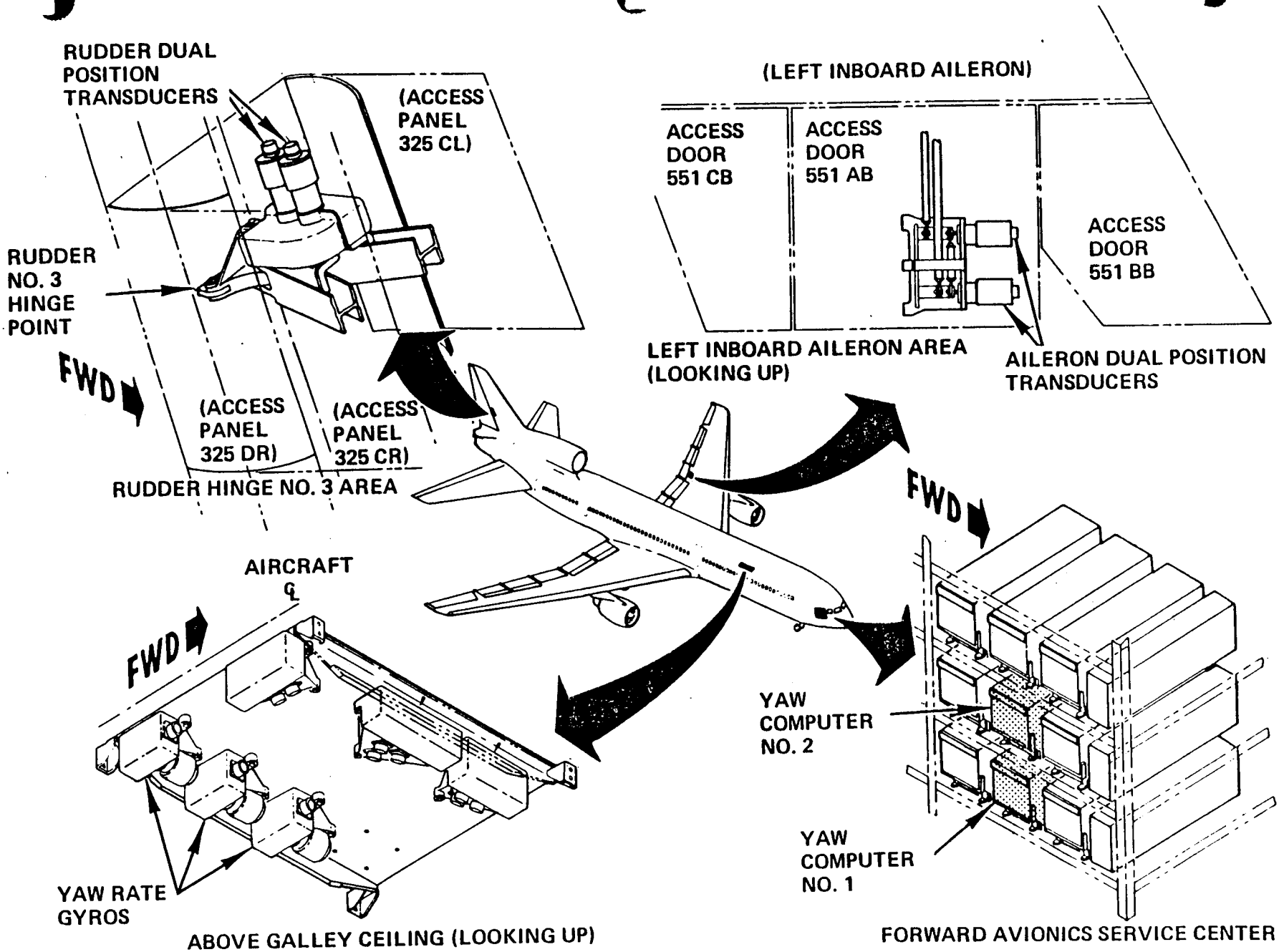
AFCS WARNING INDICATORS



AFCS MODES ANNUNCIATORS



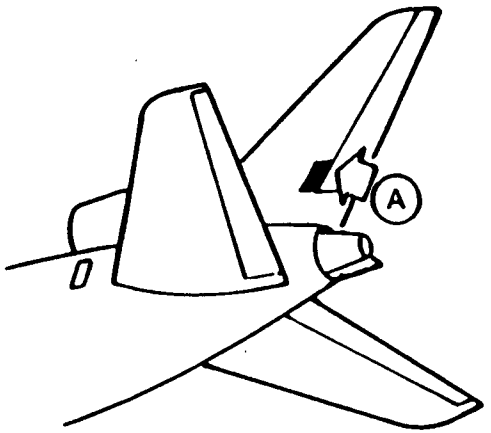
YAW SAS
FLIGHT STATION COMPONENT LOCATIONS

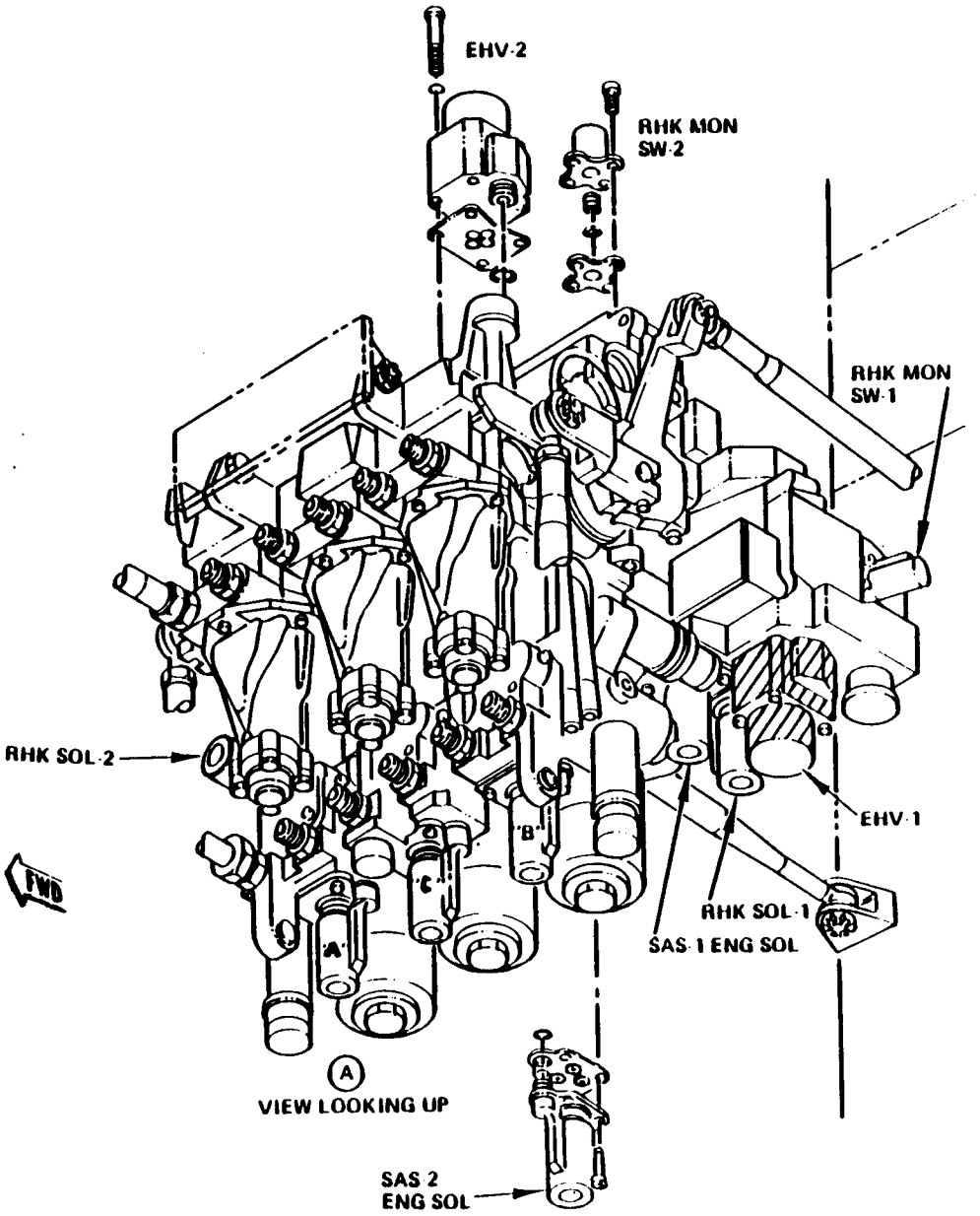


YAW SAS COMPONENT LOCATIONS

T-22-15-0100-006

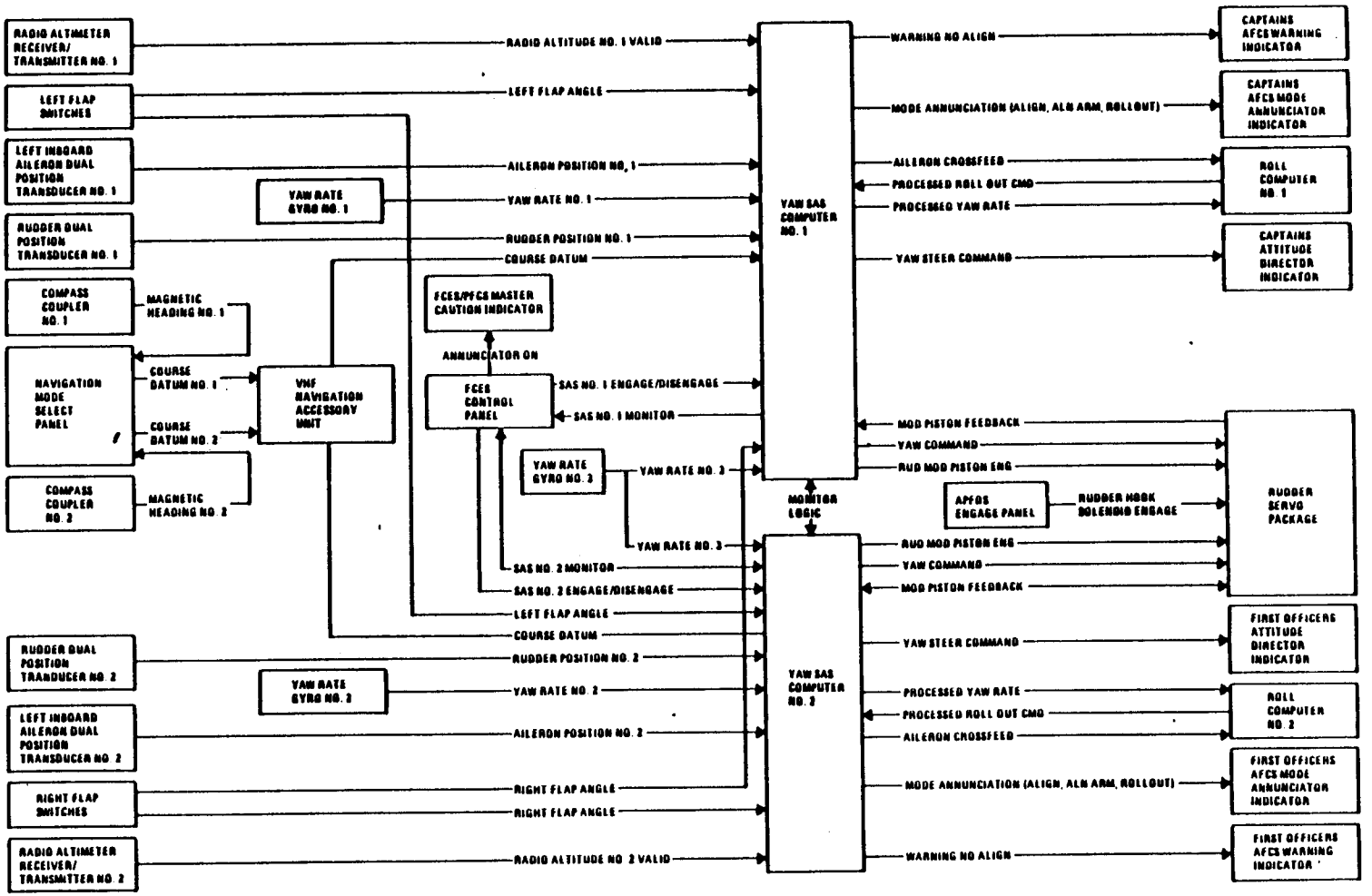
L-1011
10/72





T-22-15-0001-454

RUDDER SERVO

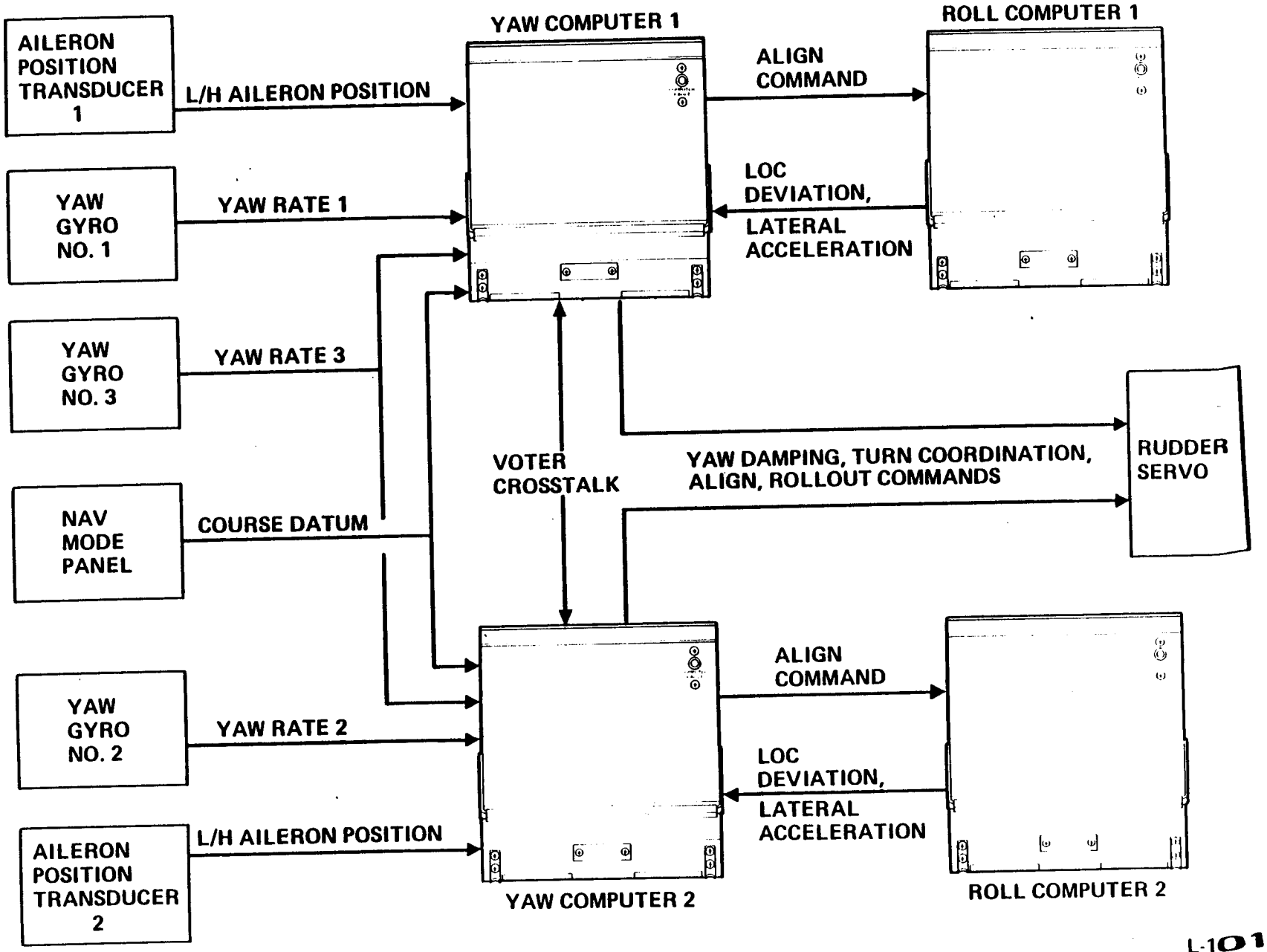

RADIO ALTIMETER RECEIVER/ TRANSMITTER NO. 1
LEFT FLAP SWITCHES
LEFT INBOARD AILERON DUAL POSITION TRANSDUCER NO. 1
RUDDER DUAL POSITION TRANSDUCER NO. 1
COMPASS COUPLER NO. 1
NAVIGATION MODE SELECT PANEL
COMPASS COUPLER NO. 2
YAW RATE GYRO NO. 1
MAGNETIC HEADING NO. 1
COURSE DATUM NO. 1
COURSE DATUM NO. 2
MAGNETIC HEADING NO. 2
VHF NAVIGATION ACCESSORY UNIT
RADIO ALTITUDE NO. 1 VALID
LEFT FLAP ANGLE
AILERON POSITION NO. 1
YAW RATE NO. 1
RUDDER POSITION NO. 1
COURSE DATUM
FCES/PFCS MASTER CAUTION INDICATOR
ANNUNCIATOR ON
FCES CONTROL PANEL
SAS NO. 1 ENGAGE/DISENGAGE
SAS NO. 1 MONITOR
YAW RATE GYRO NO. 3
YAW RATE NO. 3
YAW SAS COMPUTER NO. 1
MONITOR LOGIC
YAW SAS COMPUTER NO. 2
WARNING NO ALIGN
MODE ANNUNCIATION (ALIGN, ALN ARM, ROLLOUT)
AILERON CROSSFEED
PROCESSED ROLL OUT CMD
PROCESSED YAW RATE
YAW STEER COMMAND
CAPTAINS AFCS WARNING INDICATOR
CAPTAINS AFCS MODE ANNUNCIATOR INDICATOR
ROLL COMPUTER NO. 1
CAPTAINS ATTITUDE DIRECTOR INDICATOR
MOD PISTON FEEDBACK
YAW COMMAND
RUD MOD PISTON ENG
APFDS ENGAGE PANEL
RUDDER HOOK SOLENOID ENGAGE
RUDDER SERVO PACKAGE
SAS NO. 2 MONITOR
SAS NO. 2 ENGAGE/DISENGAGE
RUDDER DUAL POSITION TRANSDUCER NO. 2
YAW RATE GYRO NO. 2
LEFT INBOARD AILERON DUAL POSITION TRANSDUCER NO. 2
RIGHT FLAP SWITCHES
RADIO ALTIMETER RECEIVER/ TRANSMITTER NO. 2
RUDDER POSITION NO. 2
YAW RATE NO. 2
AILERON POSITION NO. 2
RIGHT FLAP ANGLE
RADIO ALTITUDE NO. 2 VALID
FIRST OFFICERS ATTITUDE DIRECTOR INDICATOR
ROLL COMPUTER NO. 2
FIRST OFFICERS AFCS MODE ANNUNCIATOR INDICATOR
FIRST OFFICERS AFCS WARNING INDICATOR

T-22-15-0000-427

T 22 15 0000 427

YAW SAS INTERFACE

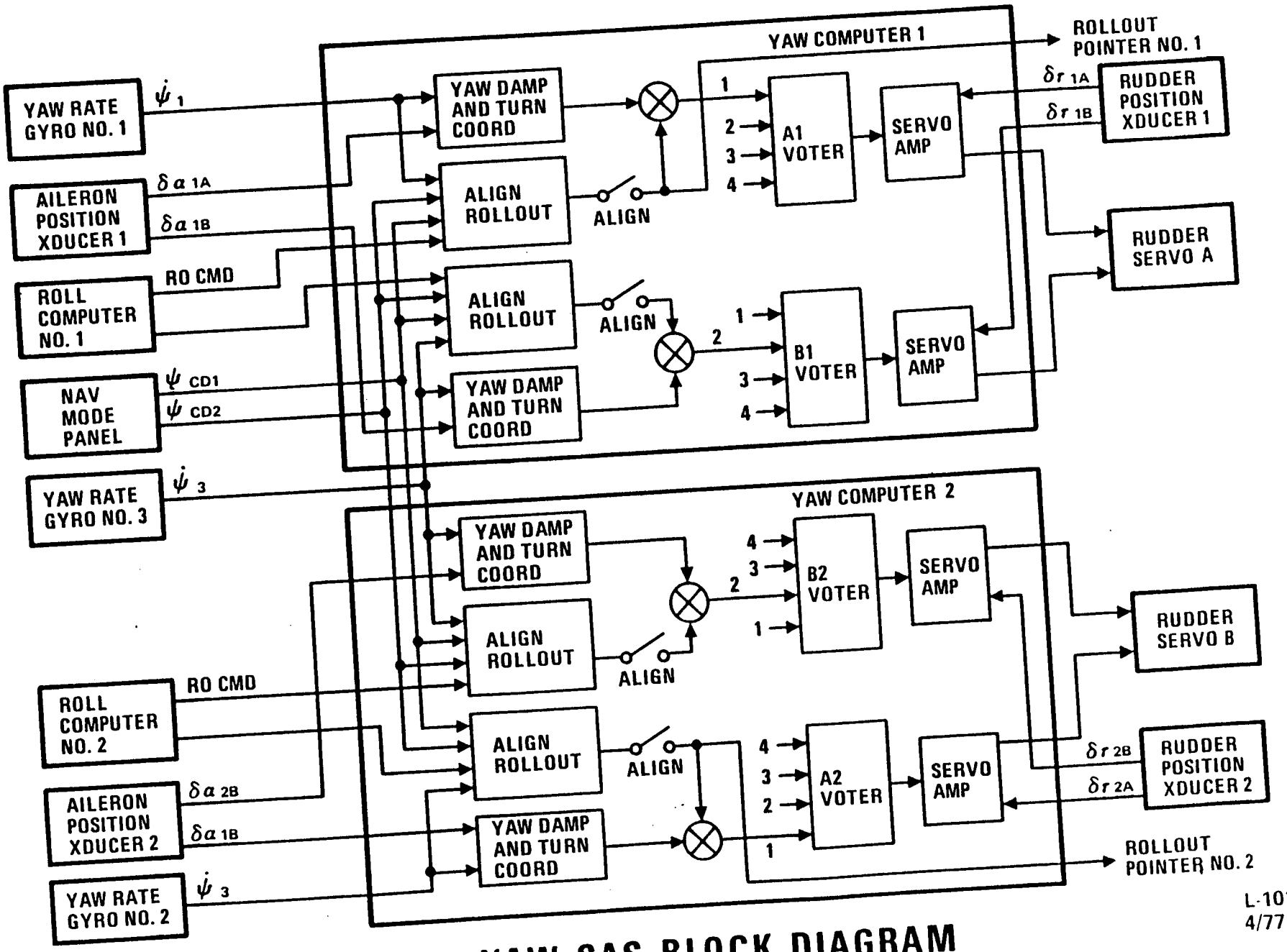
L 1011
5/73



T-22-15-0002-088

YAW SAS BLOCK DIAGRAM

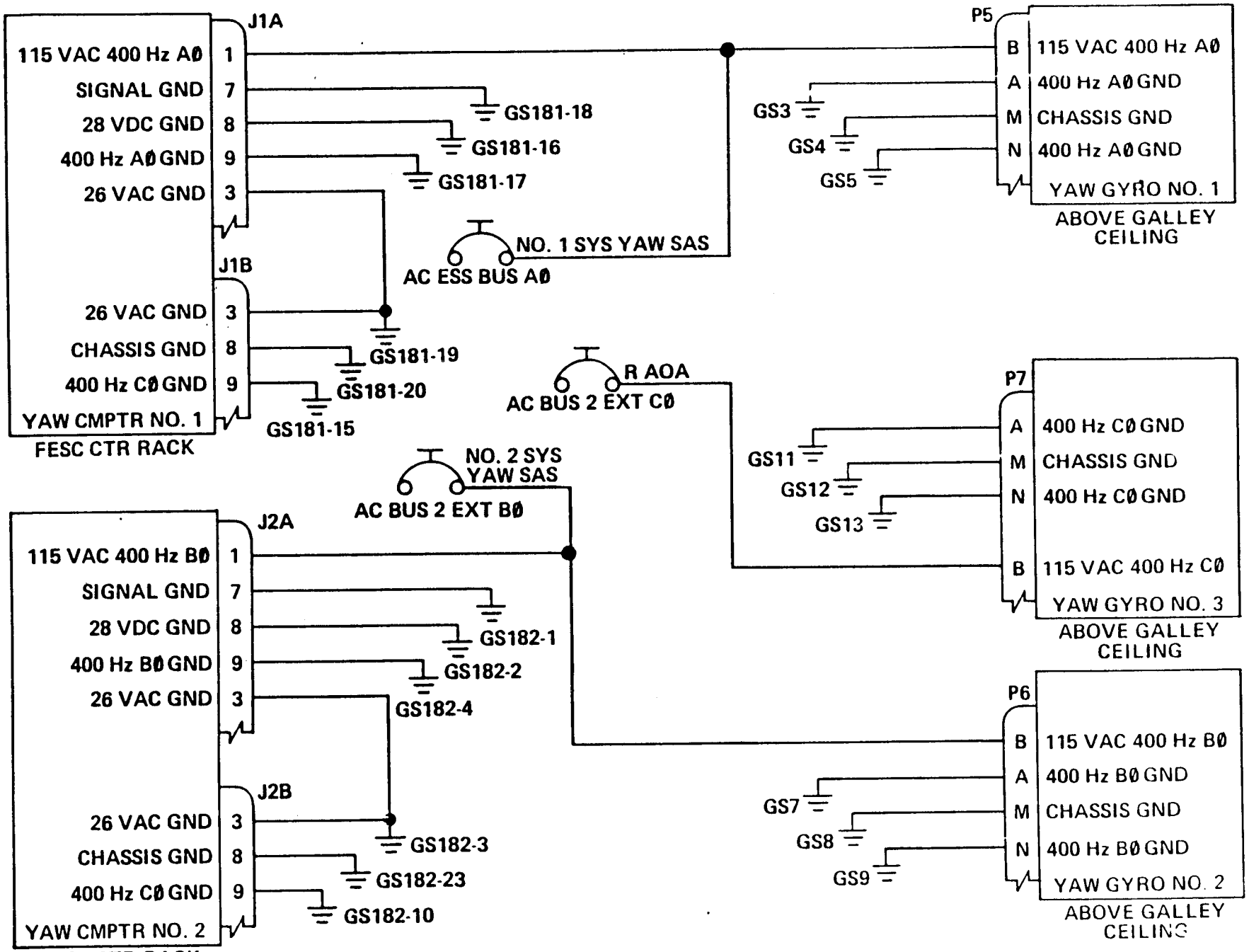
L-1011
9/78



L-1011
4/77

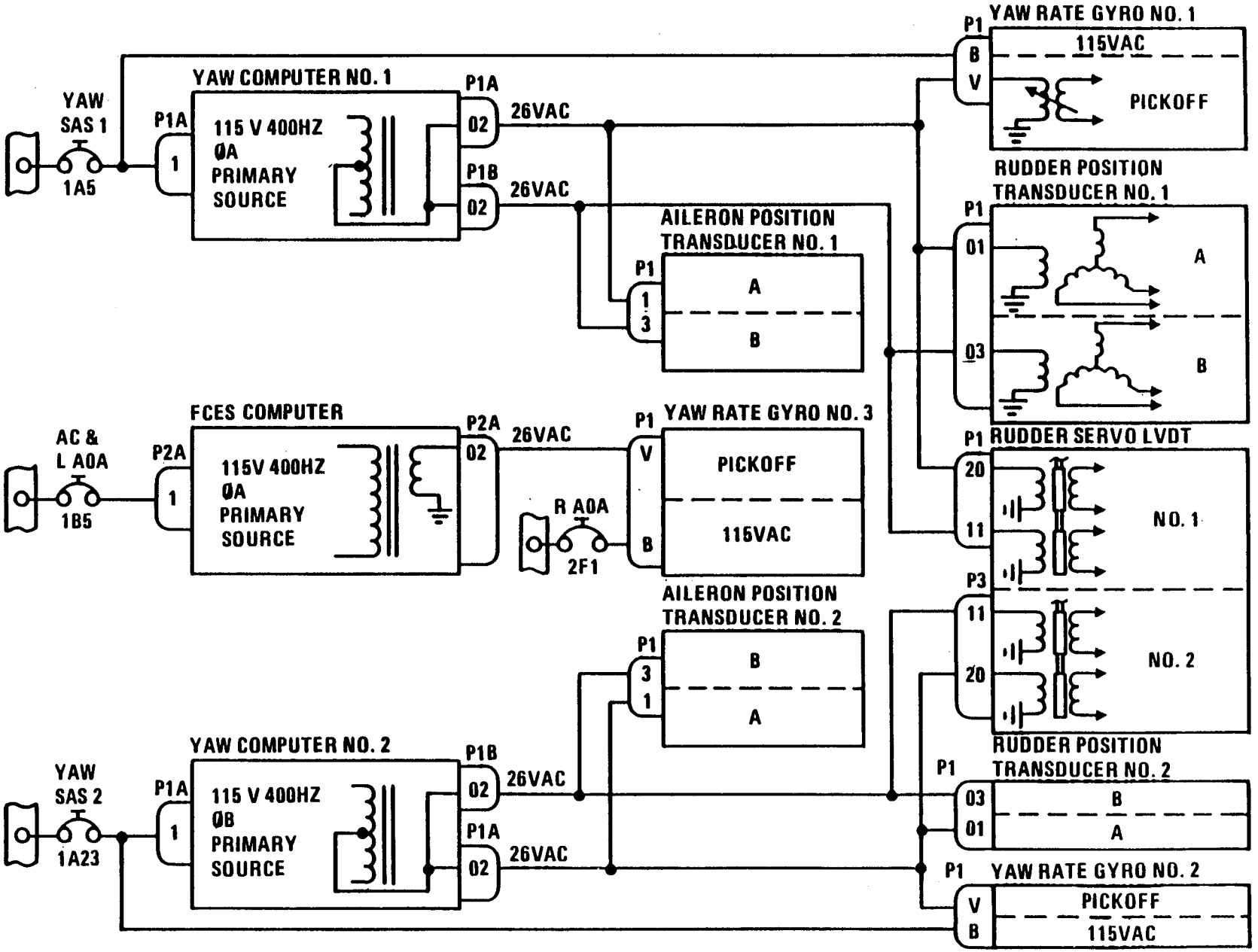
YAW SAS BLOCK DIAGRAM

T-22-15-0004-018



YAW SAS POWER DISTRIBUTION

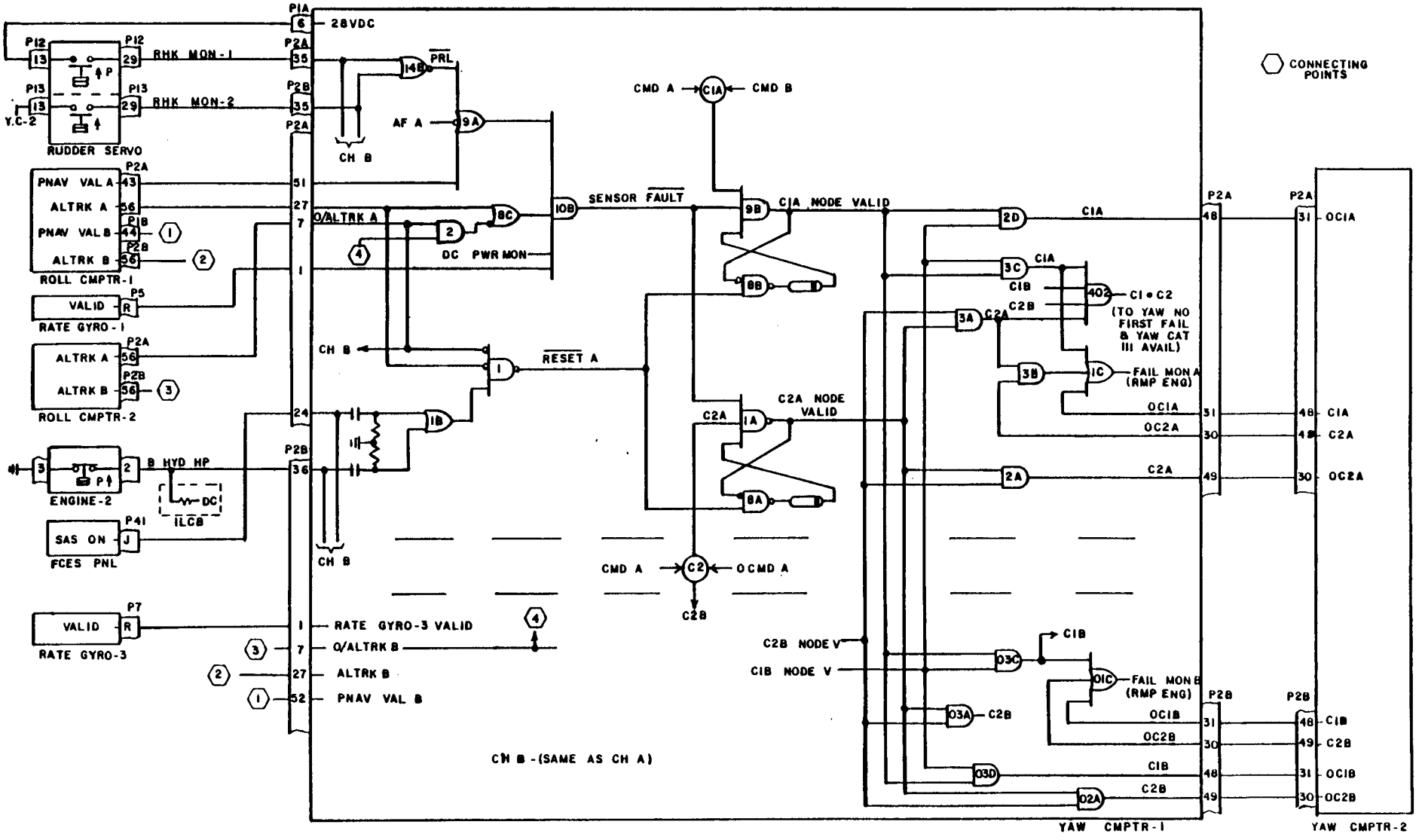
L-1011
7/71



T-22-15-0002-074

YAW SAS AC POWER DISTRIBUTION

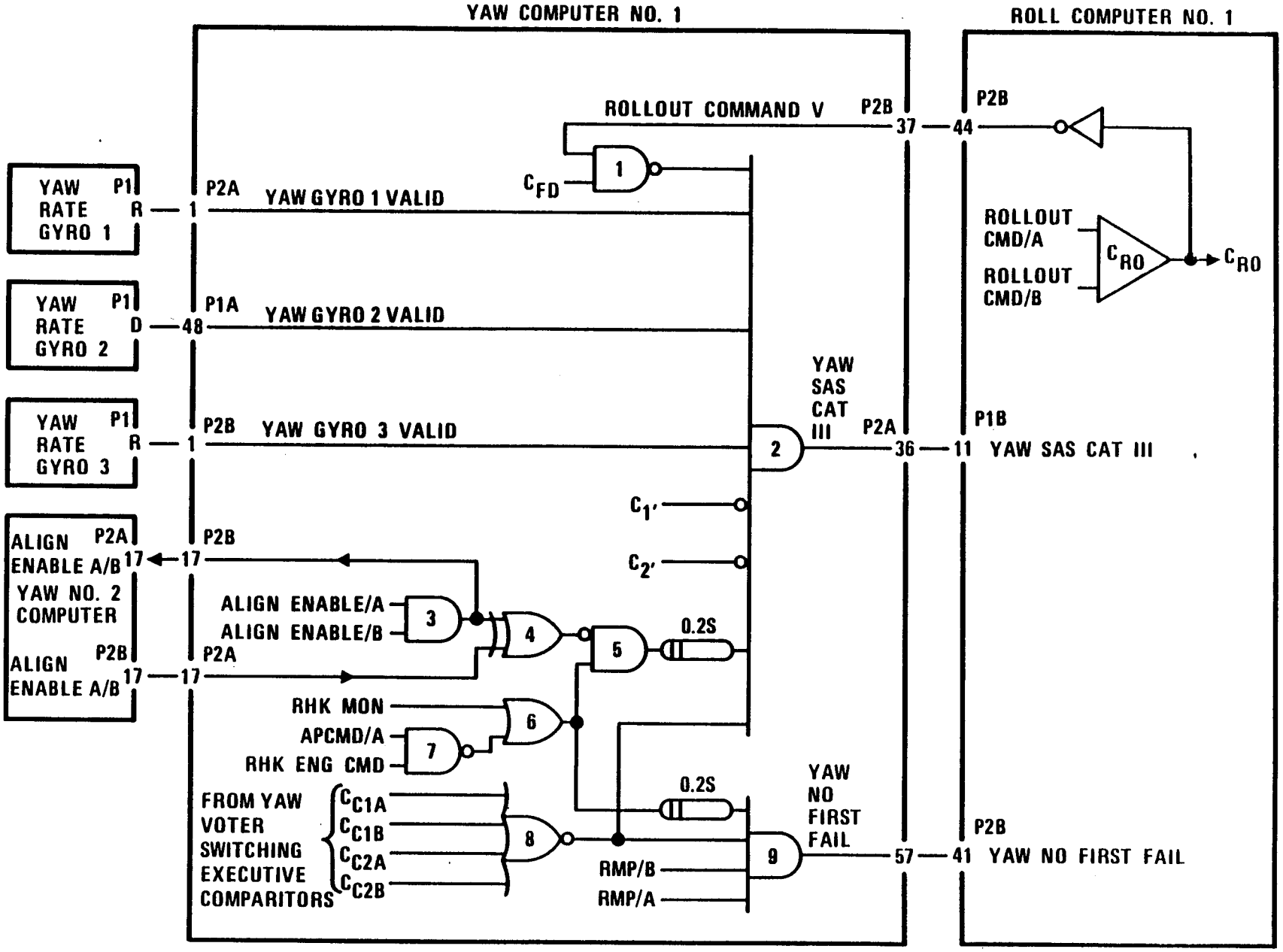
L-1011
11/74



T22-15-437 TW

AFCS YAW COMPARATORS - MONITORING LOGIC SCHEMATIC

L1011
8-77

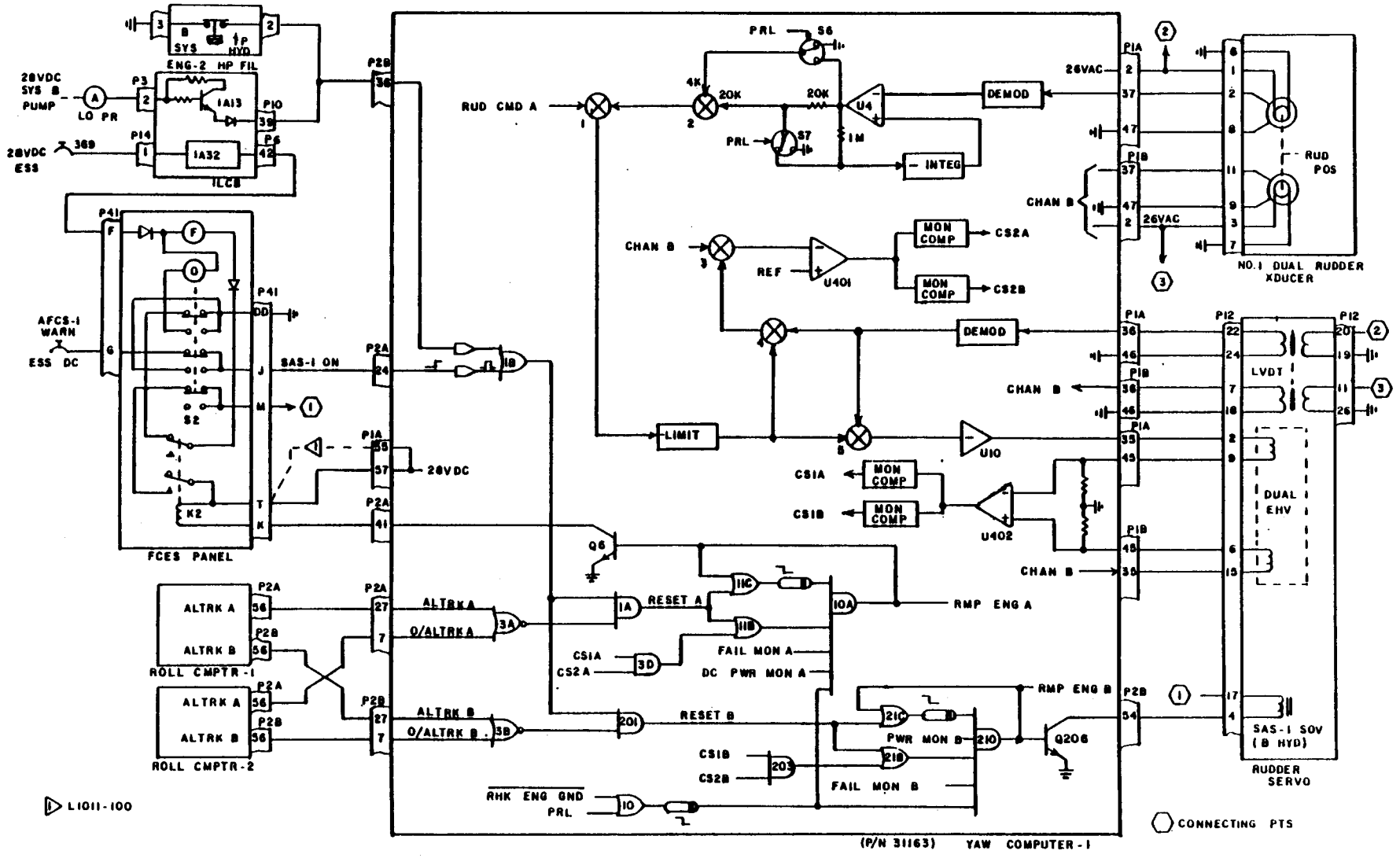


T-22-15-0002-651

YAW SAS CAT III AND NFF LOGIC

L-1011

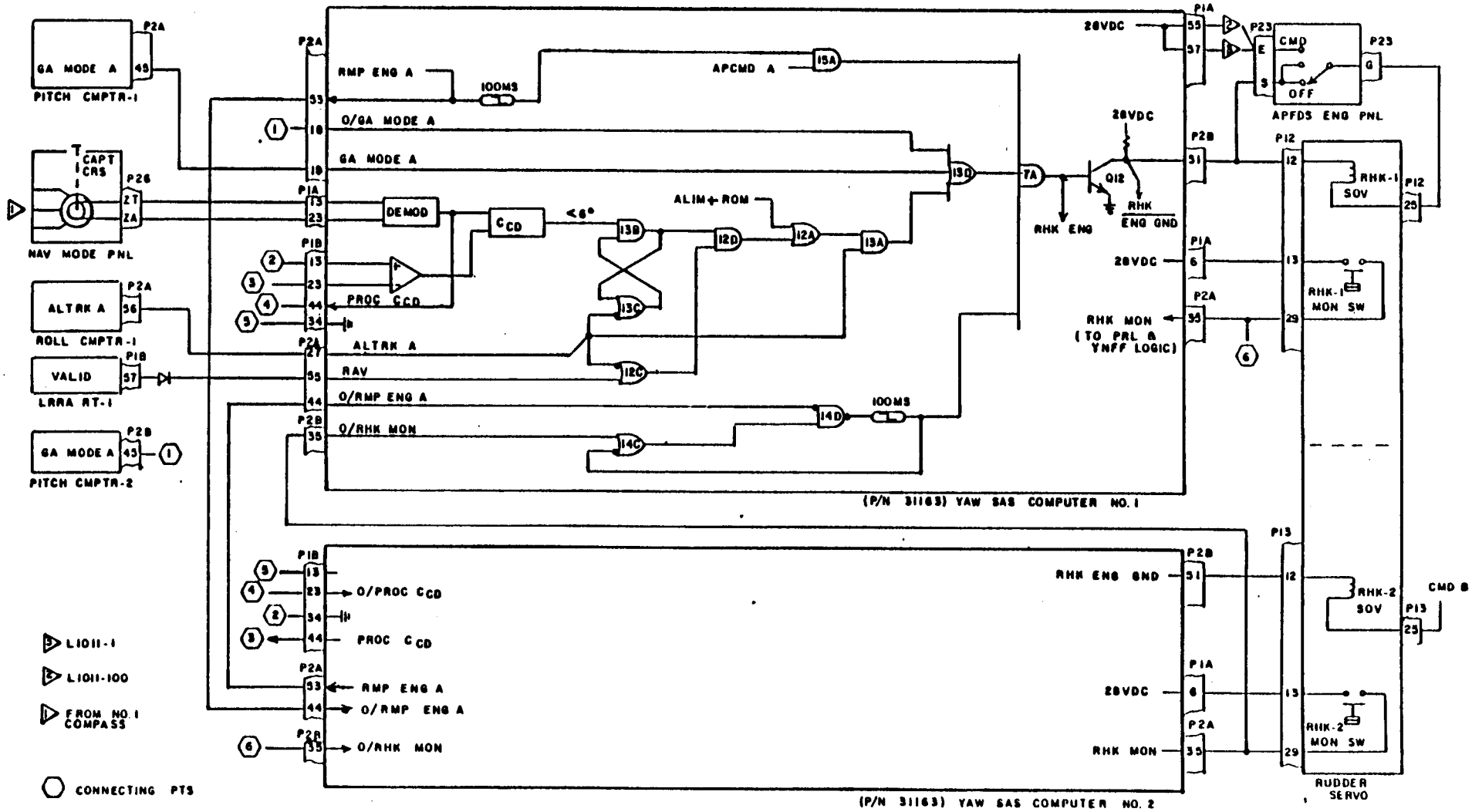
FOR TRAINING PURPOSES ONLY



T22-15-436TW

NO. 1 YAW SAS ENGAGE LOGIC

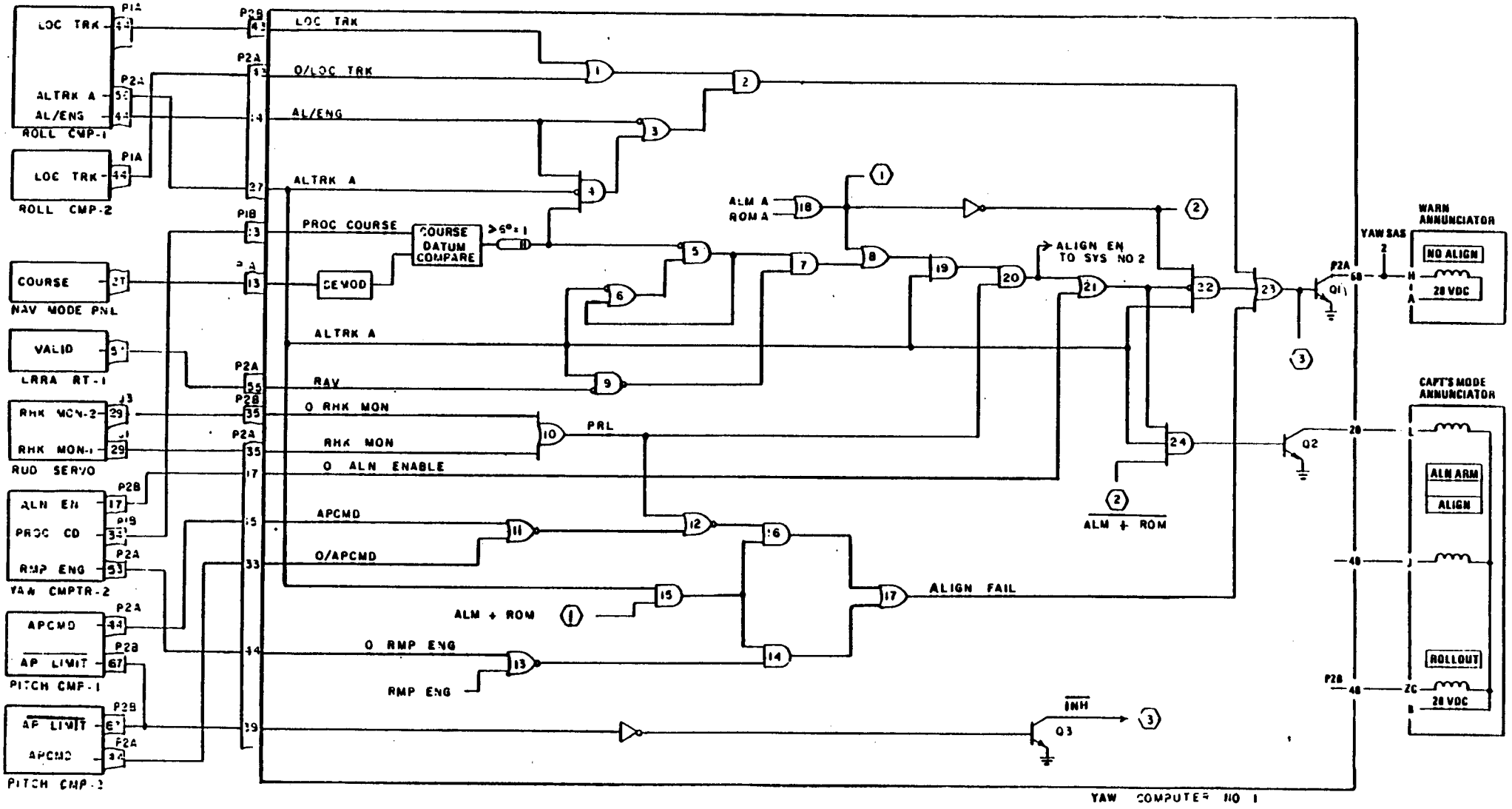
L1011
5-78



T22-15-458 TW

YAW SAS RUDDER HOOK ENGAGE LOGIC

L1011-ALL
2-78

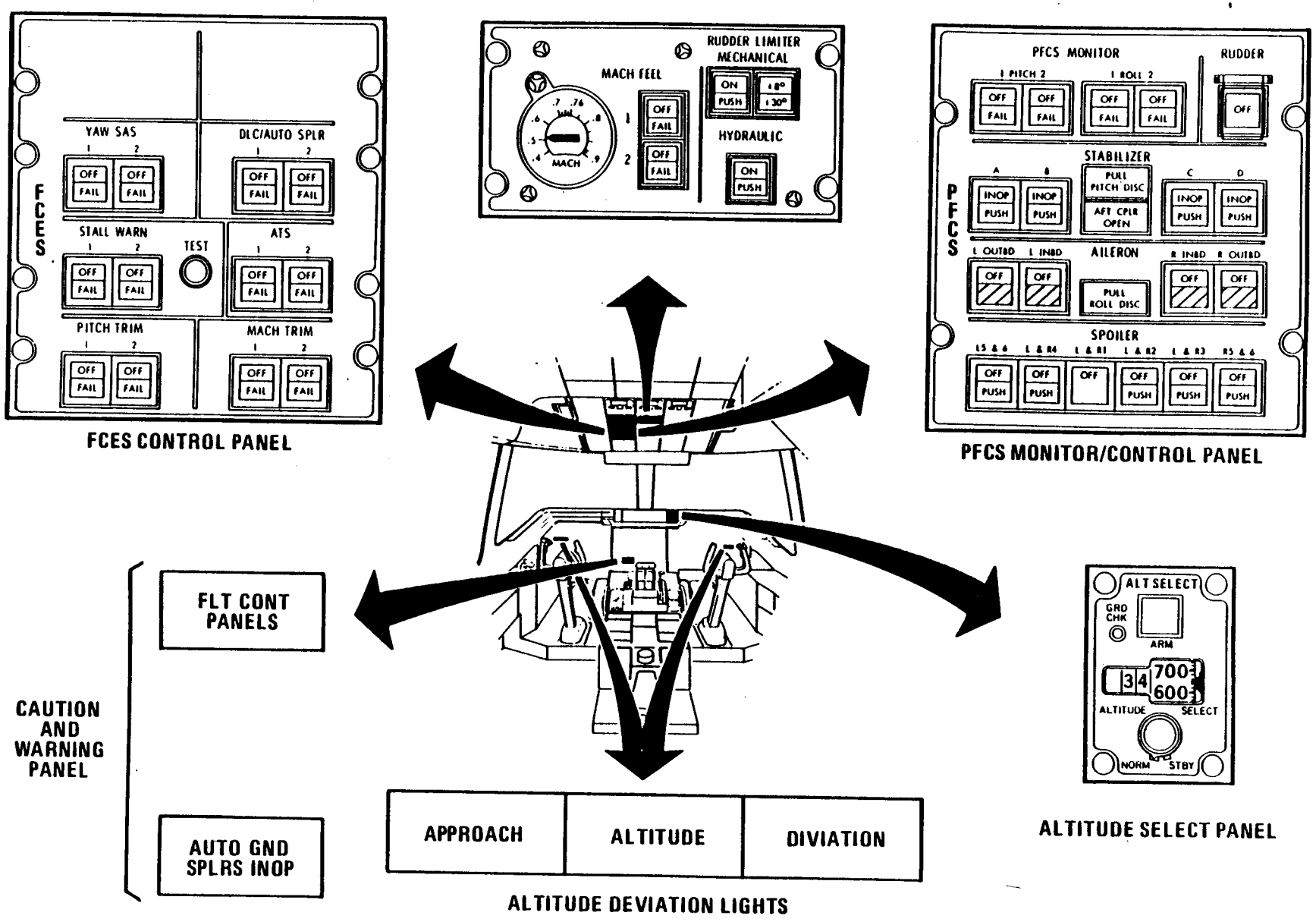


CONNECTING PTS

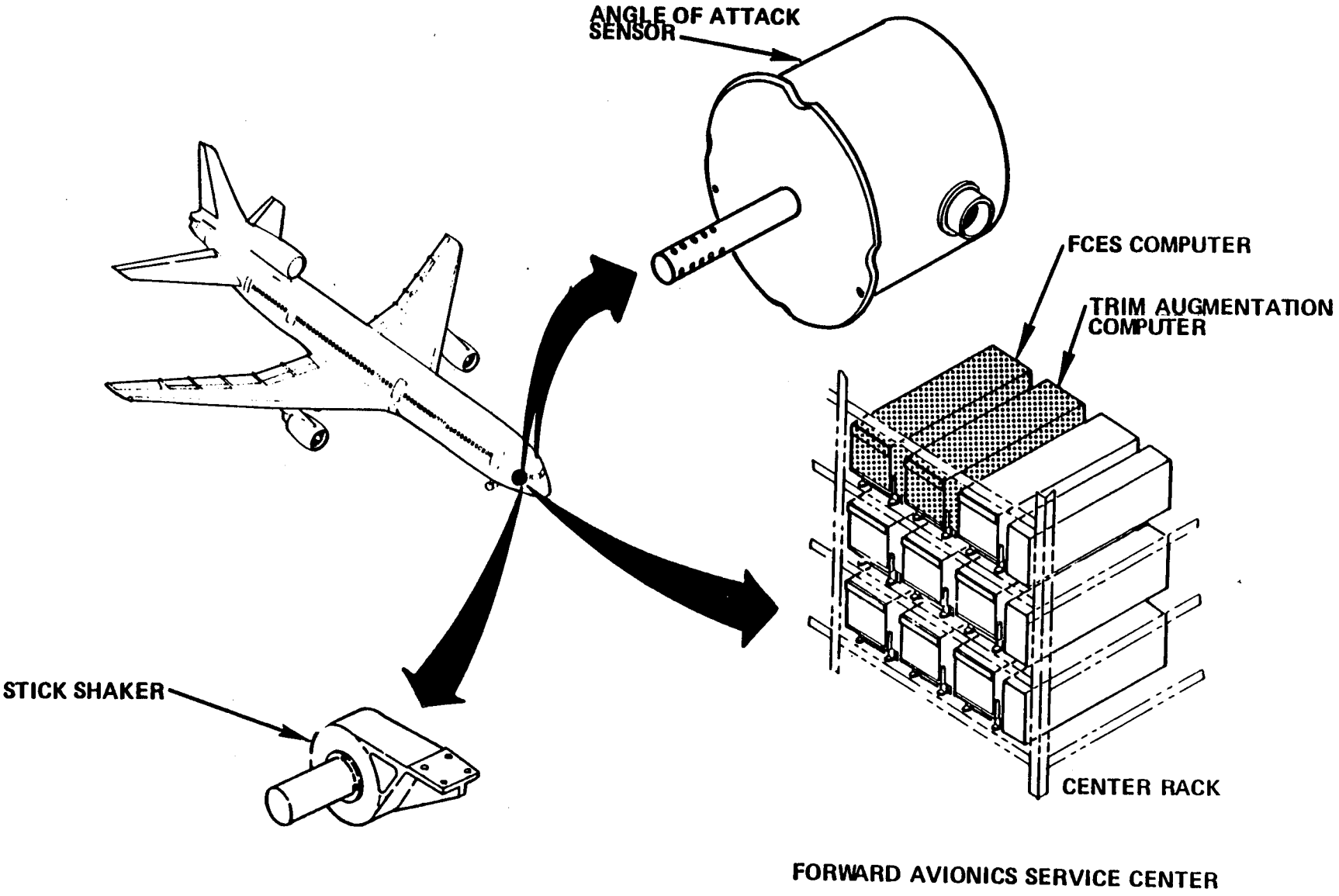
T22-15-321TW

NO ALIGN & ALIGN ARM ANNUNCIATION - NO. 1 SYS.

L-1011
2/82



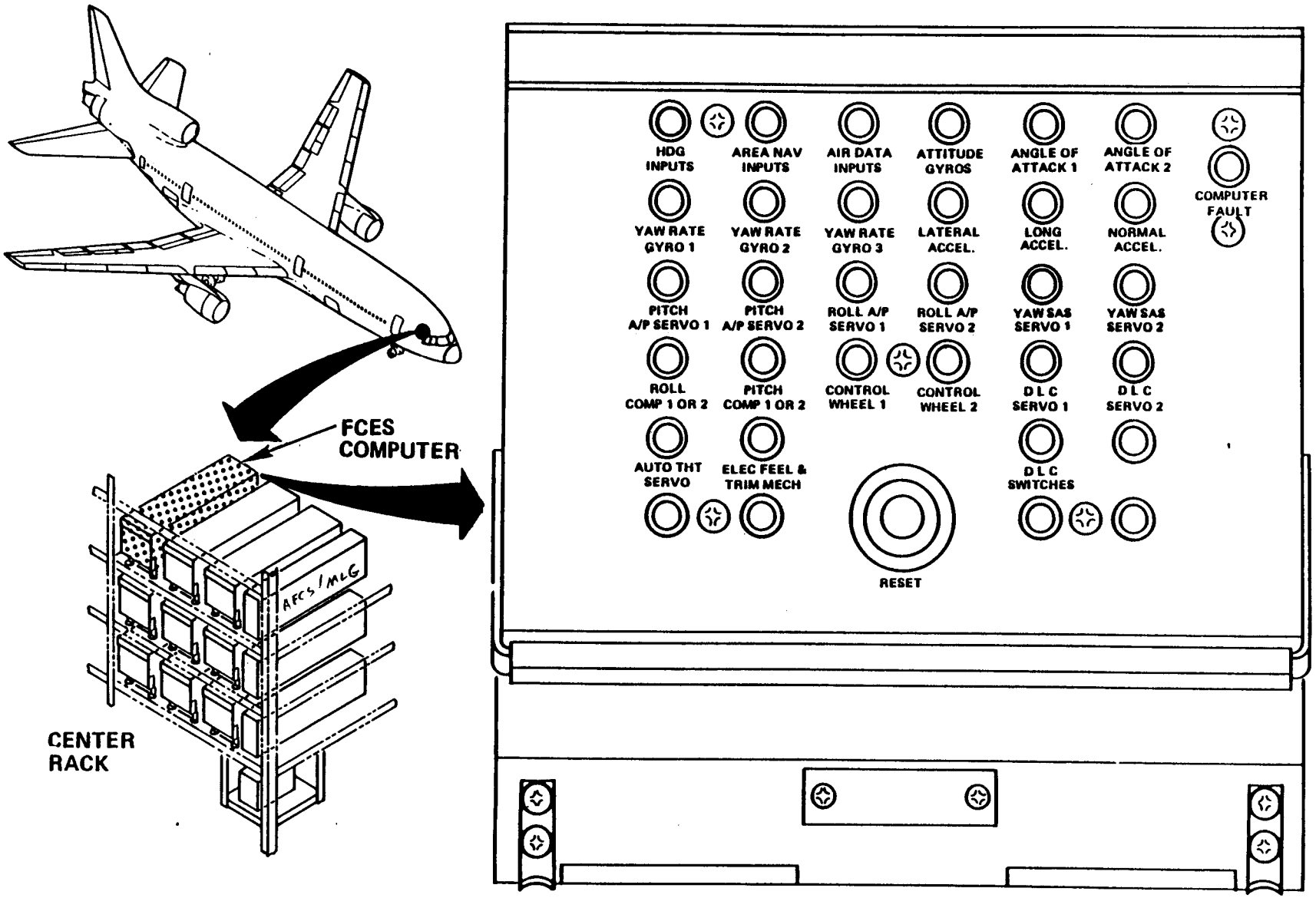
FLIGHT CONTROL ELECTRONICS SYSTEM FLIGHT STATION COMPONENT LOCATIONS



T-22-17-0102-007

FLIGHT CONTROL ELECTRONICS SYSTEM COMPONENT LOCATION

L-1011
3/72



FORWARD ELECTRONICS SERVICE CENTER

T-22-17-0101-044

FCES COMPUTER FRONT PANEL

L-1011
3/72

MONITOR & CONTROL PANEL FOR FLIGHT CONTROL ELECTRONICS SYSTEM

EACH FLIGHT CONTROL SYSTEM HAS TWO INDEPENDENT CHANNELS OF MONITORED OPERATION. A FAULT CAUSES AUTOMATIC CHANNEL SHUTDOWN. CERTAIN FAULTS IN ONE CHANNEL MAY SHUT DOWN BOTH CHANNELS.

IN - NO LEGEND IS ILLUMINATED AND SYSTEM IS IN NORMAL OPERATION. FAIL LIGHT ARMED. WHEN FAIL IS ILLUMINATED, THE SYSTEM MONITOR HAS DETECTED A FAULT AND AUTOMATICALLY DEACTIVATED THE FAULTY CHANNEL.

OUT - THE CHANNEL IS DEACTIVATED AND THE FAIL LIGHT IS NOT ARMED. OFF IS ILLUMINATED TO SHOW SWITCH POSITION.

YAW STABILITY AUGMENTATION SYSTEM SWITCHES

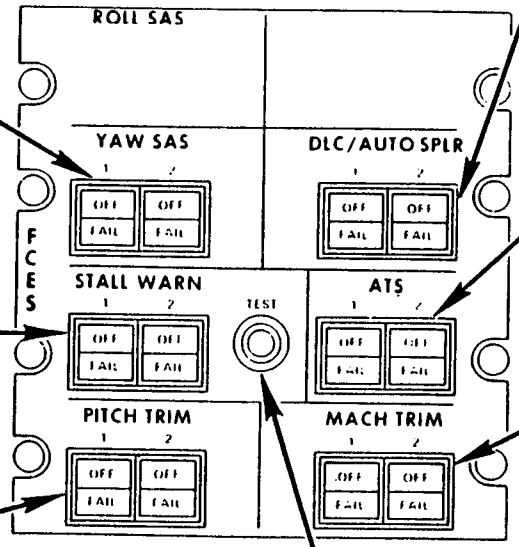
WHEN ONE OPERATING CHANNEL HAS FAILED, THE OTHER CHANNEL PROVIDES NORMAL SYSTEM OPERATION. WHEN BOTH OPERATING CHANNELS HAVE FAILED, AUTOPILOT TURN COORDINATION, RUNWAY ALIGN AND ROLLOUT GUIDANCE ARE NOT AVAILABLE.

STALL WARNING SWITCHES

WHEN ONE OPERATING CHANNEL HAS FAILED, THE OTHER CHANNEL PROVIDES NORMAL STICK SHAKER OPERATION.

PITCH TRIM SWITCHES

WHEN ONE OPERATING CHANNEL HAS FAILED, THE OTHER CHANNEL PROVIDES TRIM BUT AT A SLOWER RATE. WHEN BOTH OPERATING CHANNELS HAVE FAILED, ONLY MECHANICAL TRIM IS AVAILABLE.



DIRECT LIFT/AUTO SPOILER SWITCHES

WHEN ONE OPERATING CHANNEL HAS FAILED, THE OTHER CHANNEL PROVIDES NORMAL SYSTEM OPERATION. WHEN BOTH CHANNELS HAVE FAILED, MANUAL SPOILERS ARE AVAILABLE.

AUTOMATIC THROTTLE SWITCHES

WHEN ONE OPERATING CHANNEL HAS FAILED, THE OTHER CHANNEL PROVIDES NORMAL AUTOMATIC THROTTLE OPERATION.

MACH TRIM SWITCHES

WHEN ONE OPERATING CHANNEL HAS FAILED, THE OTHER CHANNEL PROVIDES NORMAL MACH TRIM OPERATION.

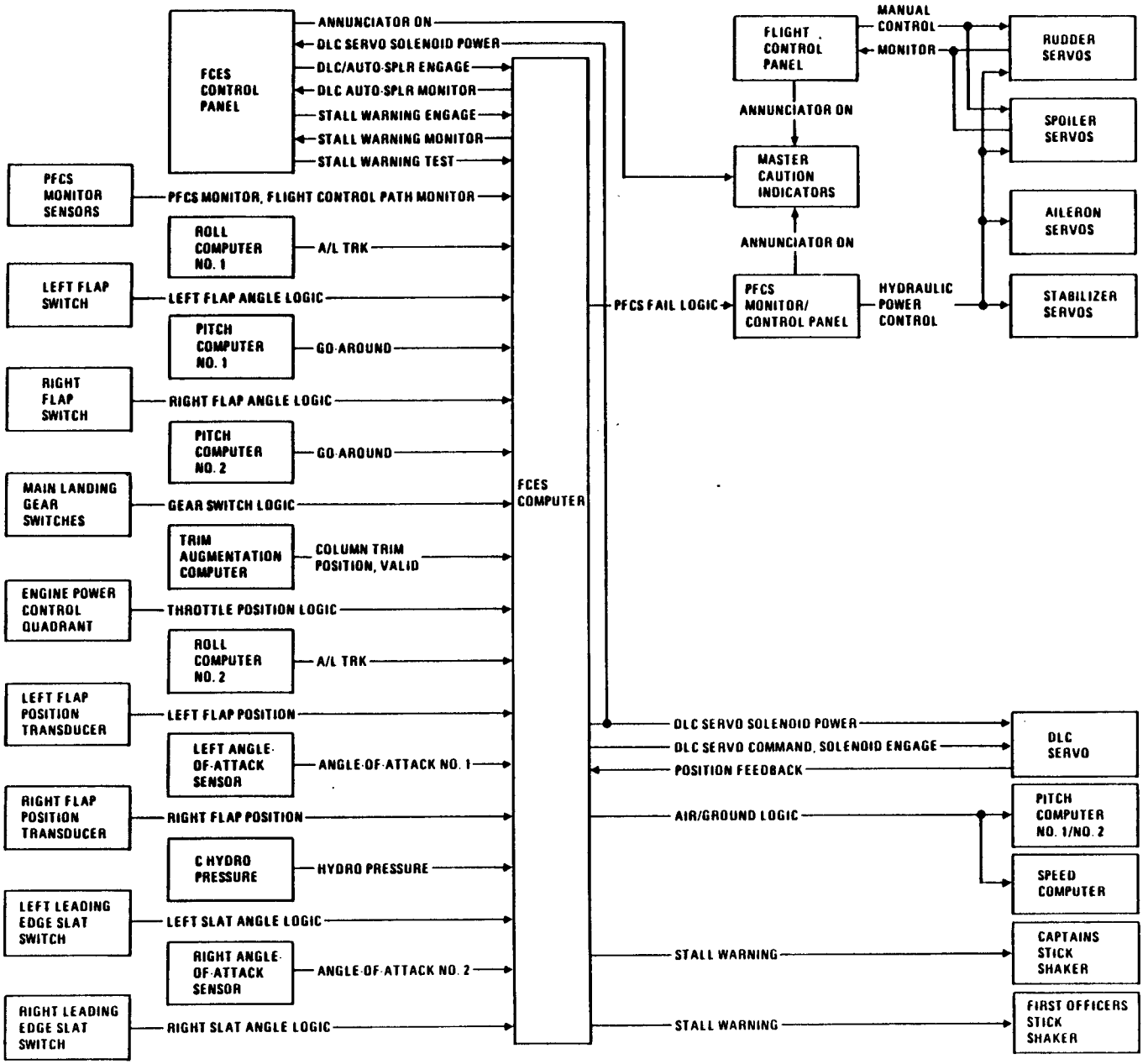
STALL WARNING TEST SWITCH

PROVIDES MEANS FOR CHECKING BOTH STALL WARNING CHANNELS ON THE GROUND.

T-31-00-0100-043

FCES CONTROL/MONITOR PANEL

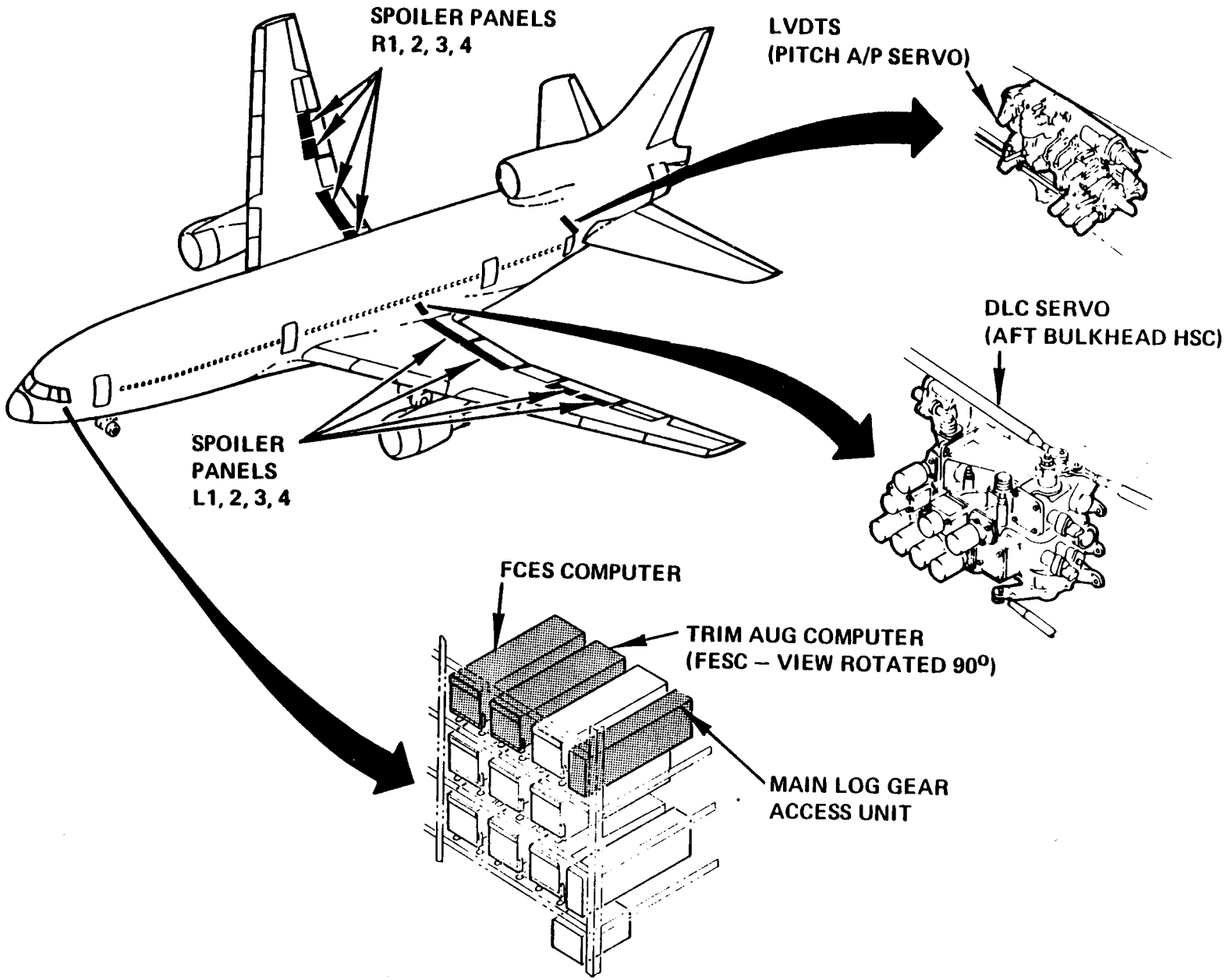
L-1011
2/72



T-22-17-0000-428

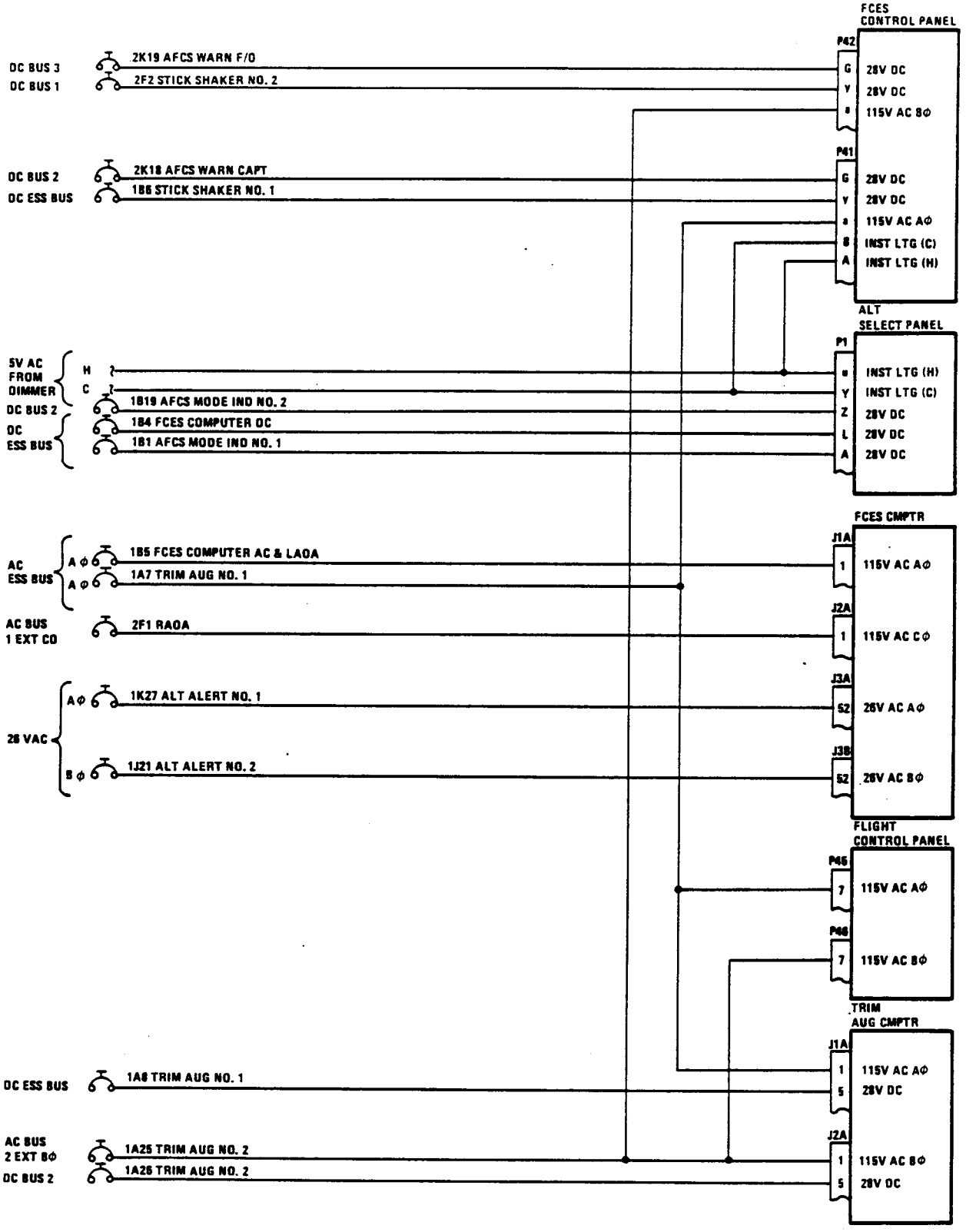
FCES INTERFACE

L-1011
5/73



T22-17-0000-598

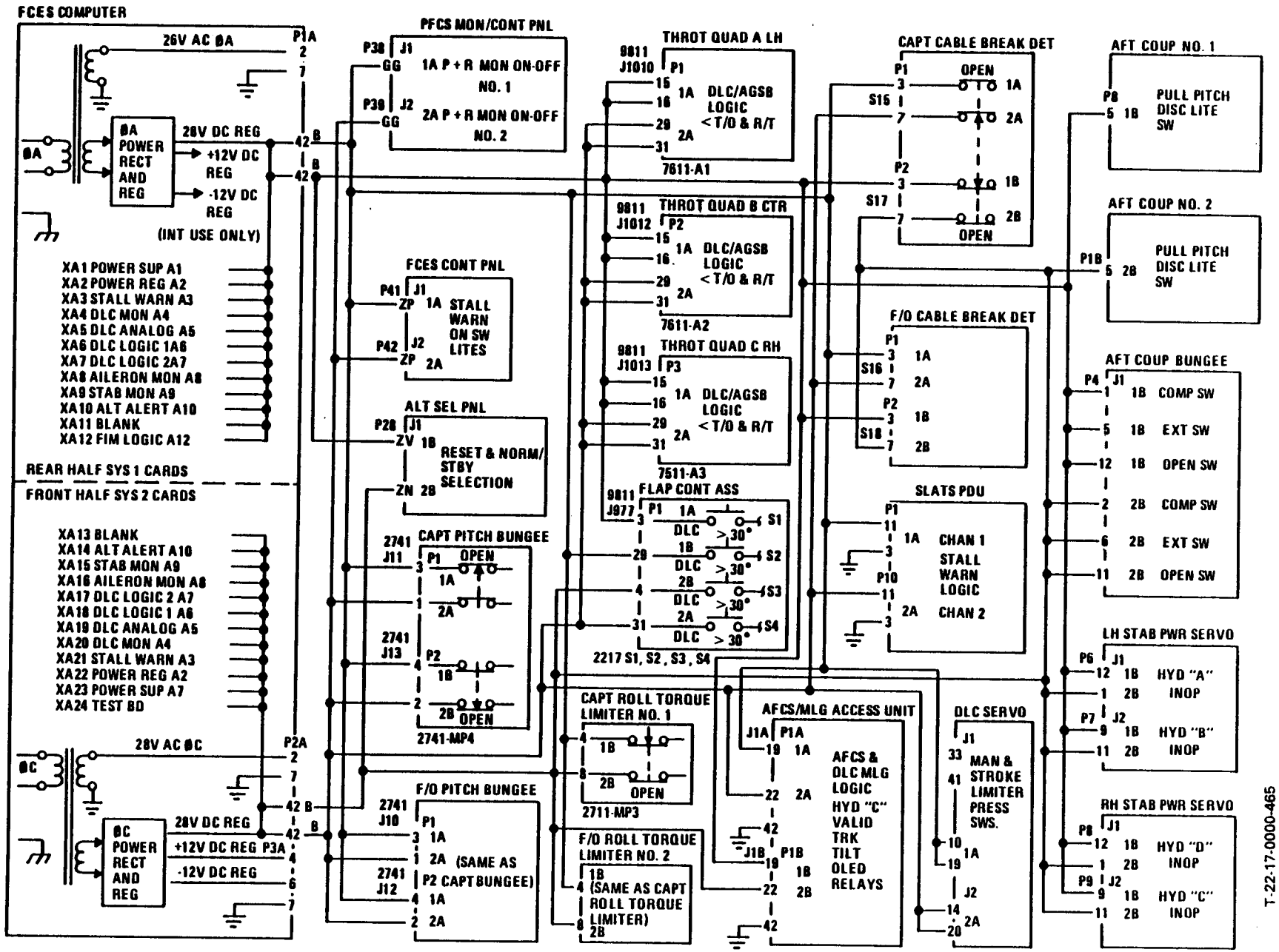
DLC/AGS COMPONENTS LOCATION



T-22-17-0001-095

FCES POWER DISTRIBUTION

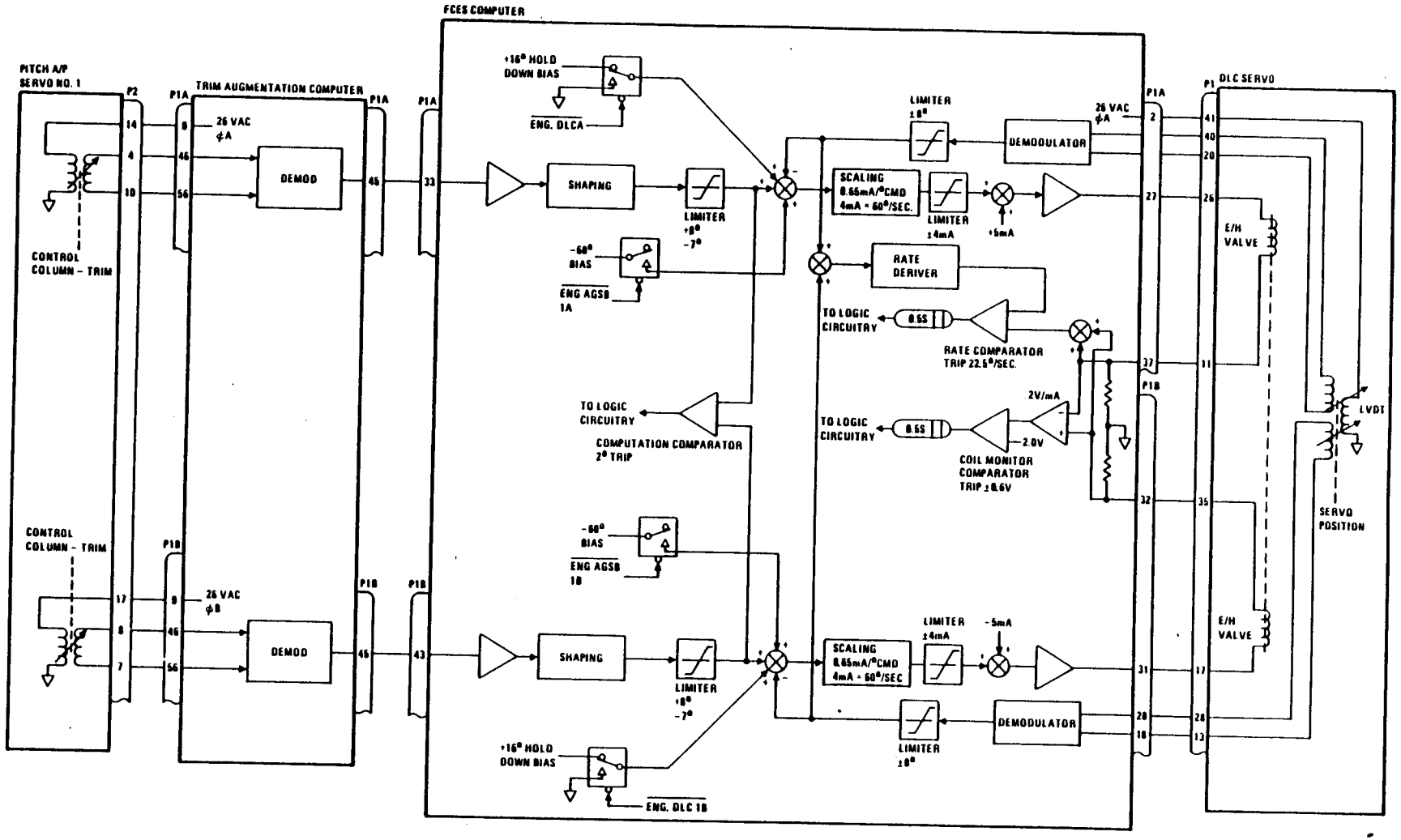
L1011
11/74


FCES COMPUTER
26V AC ØA
P1A
ØA POWER RECT AND REG
28V DC REG
+12V DC REG
-12V DC REG
(INT USE ONLY)
XA1 POWER SUP A1
XA2 POWER REG A2
XA3 STALL WARN A3
XA4 DLC MON A4
XA5 DLC ANALOG A5
XA6 DLC LOGIC 1A6
XA7 DLC LOGIC 2A7
XA8 AILERON MON A8
XA9 STAB MON A9
XA10 ALT ALERT A10
XA11 BLANK
XA12 FIM LOGIC A12
REAR HALF SYS 1 CARDS
FRONT HALF SYS 2 CARDS
XA13 BLANK
XA14 ALT ALERT A10
XA15 STAB MON A9
XA16 AILERON MON A8
XA17 DLC LOGIC 2 A7
XA18 DLC LOGIC 1 A6
XA19 DLC ANALOG A5
XA20 DLC MON A4
XA21 STALL WARN A3
XA22 POWER REG A2
XA23 POWER SUP A7
XA24 TEST BD
28V AC ØC
P2A
ØC POWER RECT AND REG
28V DC REG
+12V DC REG P3A
-12V DC REG
PFCS MON/CONT PNL
P38 J1 GG 1A P + R MON ON-OFF NO. 1
P39 J2 GG 2A P + R MON ON-OFF NO. 2
FCES CONT PNL
P41 J1 ZP 1A STALL WARN ON SW LITES
P42 J2 ZP 2A
ALT SEL PNL
P28 J1 ZV 1B RESET & NORM/STBY SELECTION
ZN 2B
2741 J11 CAPT PITCH BUNGEE
P1 OPEN 1A 2A
2741 J13 P2 1B 2B OPEN
2741-MP4
2741 J10 F/O PITCH BUNGEE
2741 J12 P1 1A 2A (SAME AS P2 CAPT BUNGEE)
THROT QUAD A LH
9811 J1010 P1 15 16 29 31 1A 2A DLC/AGSB LOGIC <T/O & R/T
7611-A1
THROT QUAD B CTR
9811 J1012 P2 15 16 29 31 1A 2A DLC/AGSB LOGIC <T/O & R/T
7611-A2
THROT QUAD C RH
9811 J1013 P3 15 16 29 31 1A 2A DLC/AGSB LOGIC <T/O & R/T
7511-A3
FLAP CONT ASS
9811 J977 P1 3 29 4 31 1A 1B 2A 2B DLC >30° S1 S2 S3 S4
2217 S1, S2, S3, S4
CAPT ROLL TORQUE LIMITER NO. 1
4 1B 8 2B OPEN
2711-MP3
F/O ROLL TORQUE LIMITER NO. 2
4 1B (SAME AS CAPT ROLL TORQUE LIMITER) 8 2B
AFCS/MLG ACCESS UNIT
J1A P1A 19 1A 22 2A 42 J1B P1B 19 1B 22 2B 42
AFCS & DLC MLG LOGIC HYD "C" VALID TRK TILT OLED RELAYS
DLC SERVO
J1 33 41 MAN & STROKE LIMITER PRESS SWS. 10 19 1A J2 14 20 2A
CAPT CABLE BREAK DET
P1 OPEN S15 3 7 1A 2A
P2 S17 3 7 1B 2B OPEN
F/O CABLE BREAK DET
P1 S16 3 7 1A 2A
P2 S18 3 7 1B 2B
SLATS PDU
P1 11 1A CHAN 1
3 STALL WARN LOGIC
P10 11 2A CHAN 2
3
AFT COUP NO. 1
P8 5 1B PULL PITCH DISC LITE SW
AFT COUP NO. 2
P1B 5 2B PULL PITCH DISC LITE SW
AFT COUP BUNGEE
P4 J1 1 1B COMP SW
5 1B EXT SW
12 1B OPEN SW
2 2B COMP SW
6 2B EXT SW
11 2B OPEN SW
LH STAB PWR SERVO
P6 J1 12 1B HYD "A" INOP
1 2B
P7 J2 9 1B HYD "B" INOP
11 2B
RH STAB PWR SERVO
P8 J1 12 1B HYD "D" INOP
1 2B
P9 J2 9 1B HYD "C" INOP
11 2B
T-22-17-0000-465

T-22-17-0000-465

FCES DC POWER DISTRIBUTION

L 1011
12/73

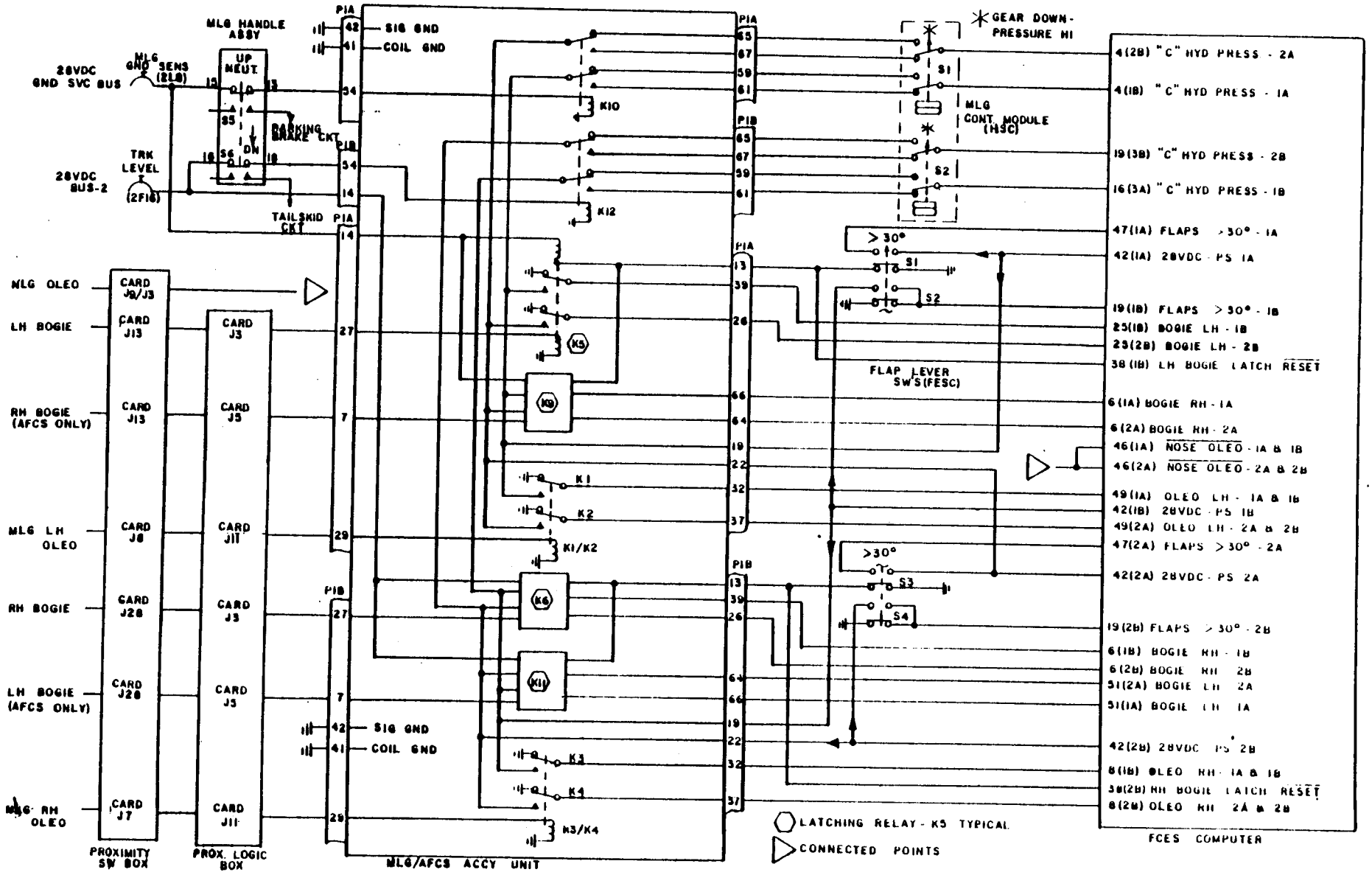


T22-17-0000-600

DLC/AGSB FUNCTIONAL ANALOG SCHEMATIC

L-1011
7/76

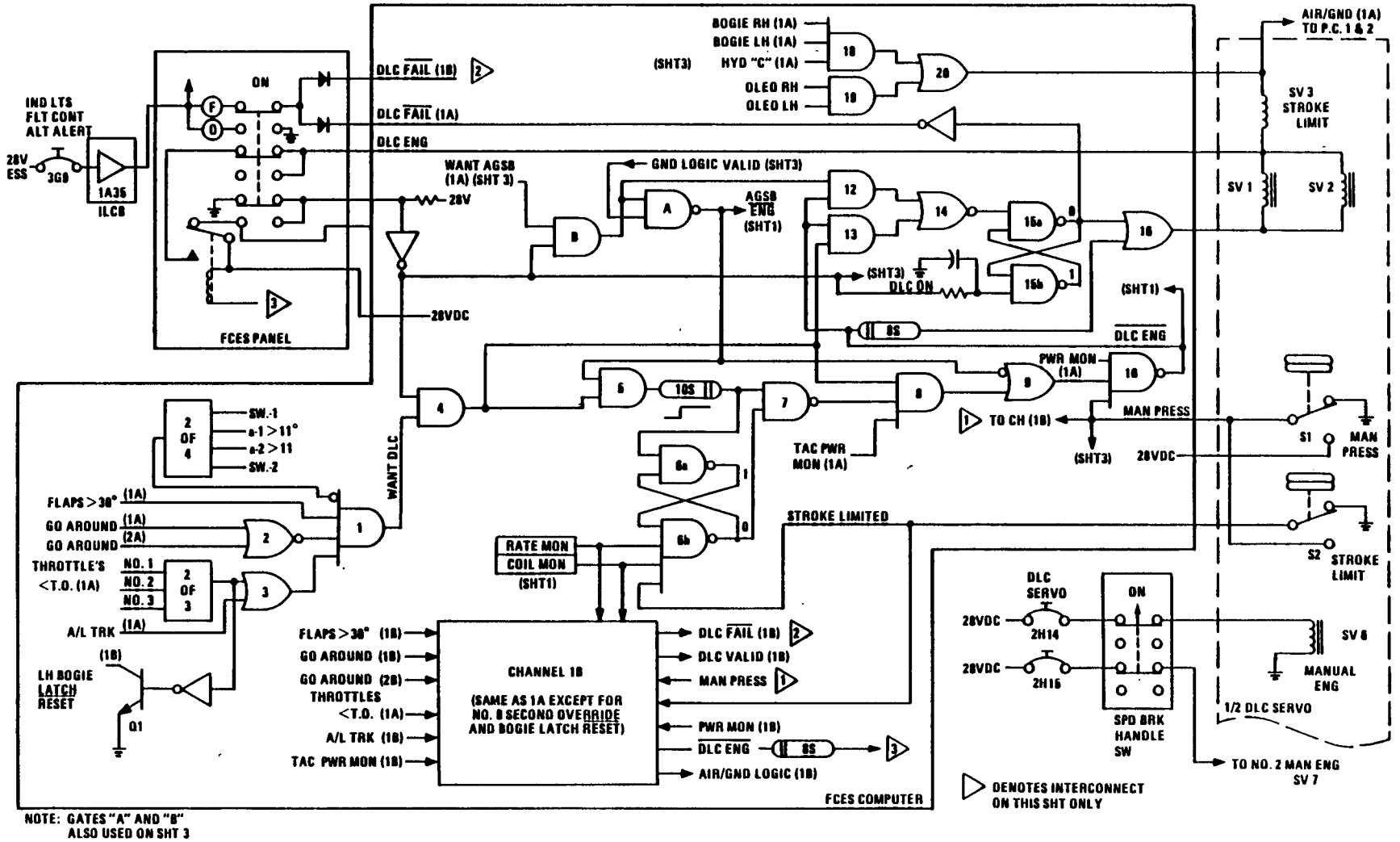
T22-17-0000-600



T22-17-442 TW (3-76)

AGSB/DLC GROUND SENSE & FLAP LOGIC

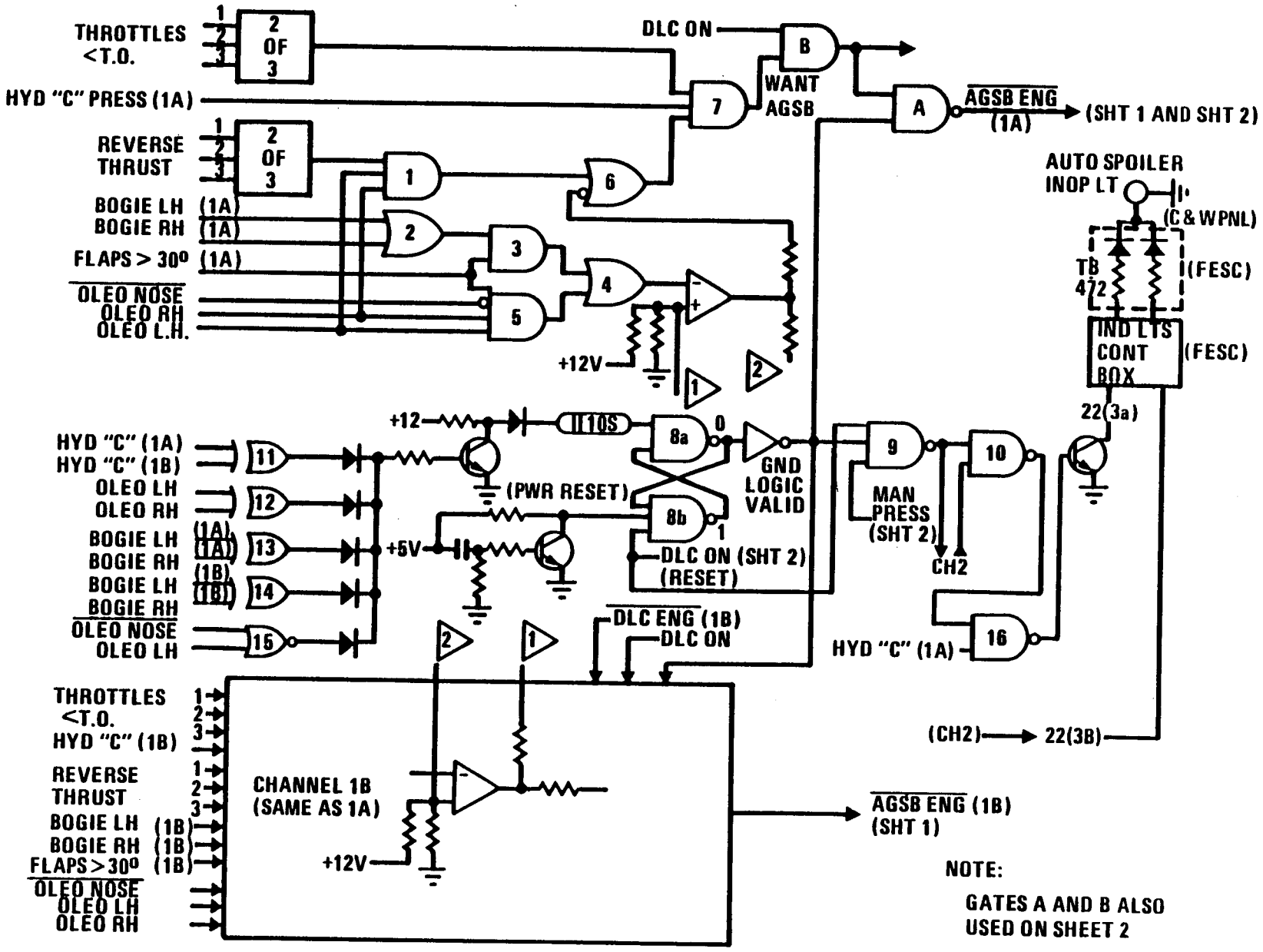
L 1011



T-22-17-0003-445

CH1 DLC CONTROL LOGIC SCHEM. (SH 2)

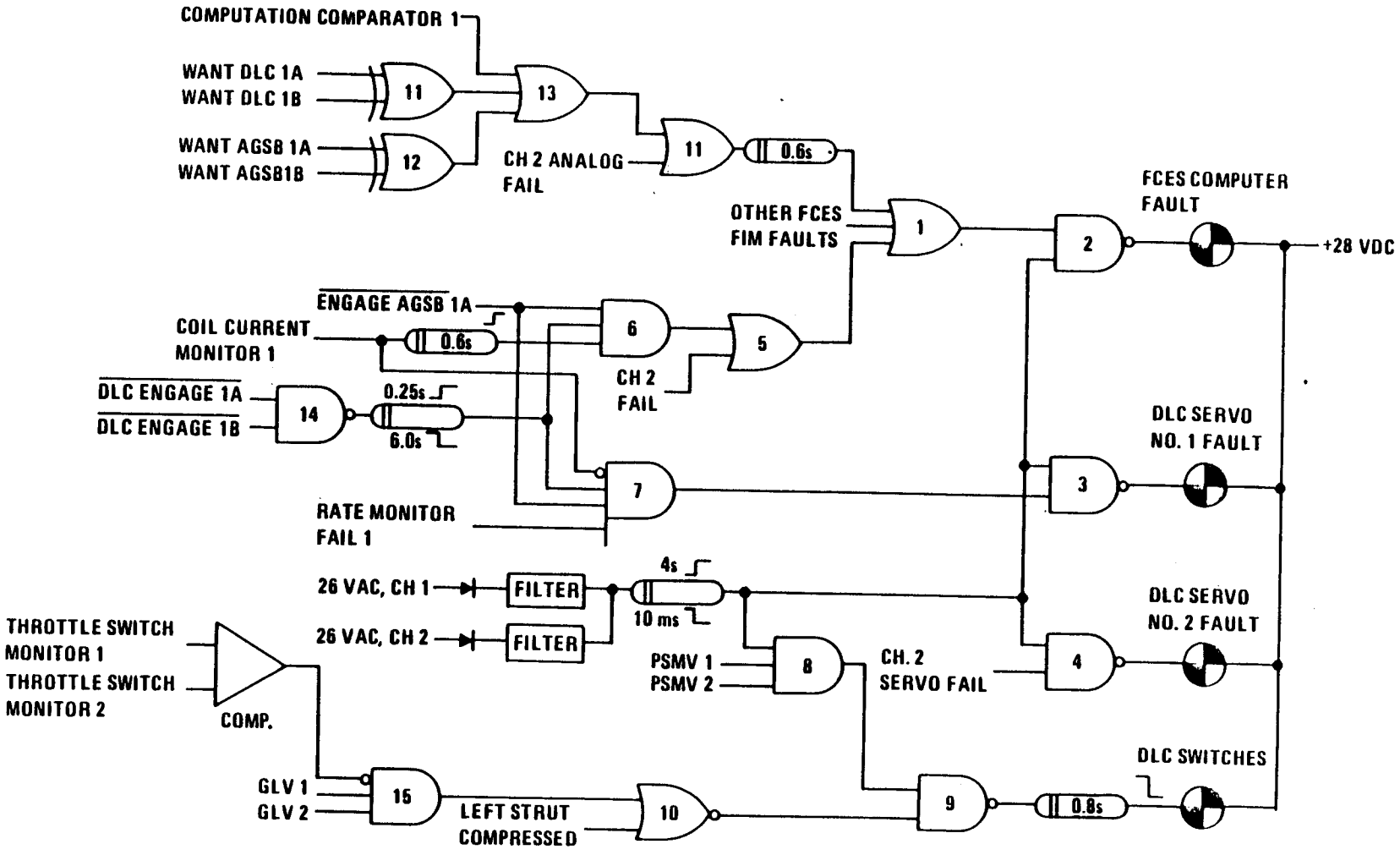
L-1011
6/75



T-22-17-0002-446

CH 1 AGS CONTROL LOGIC SCHEM. (SH 3)

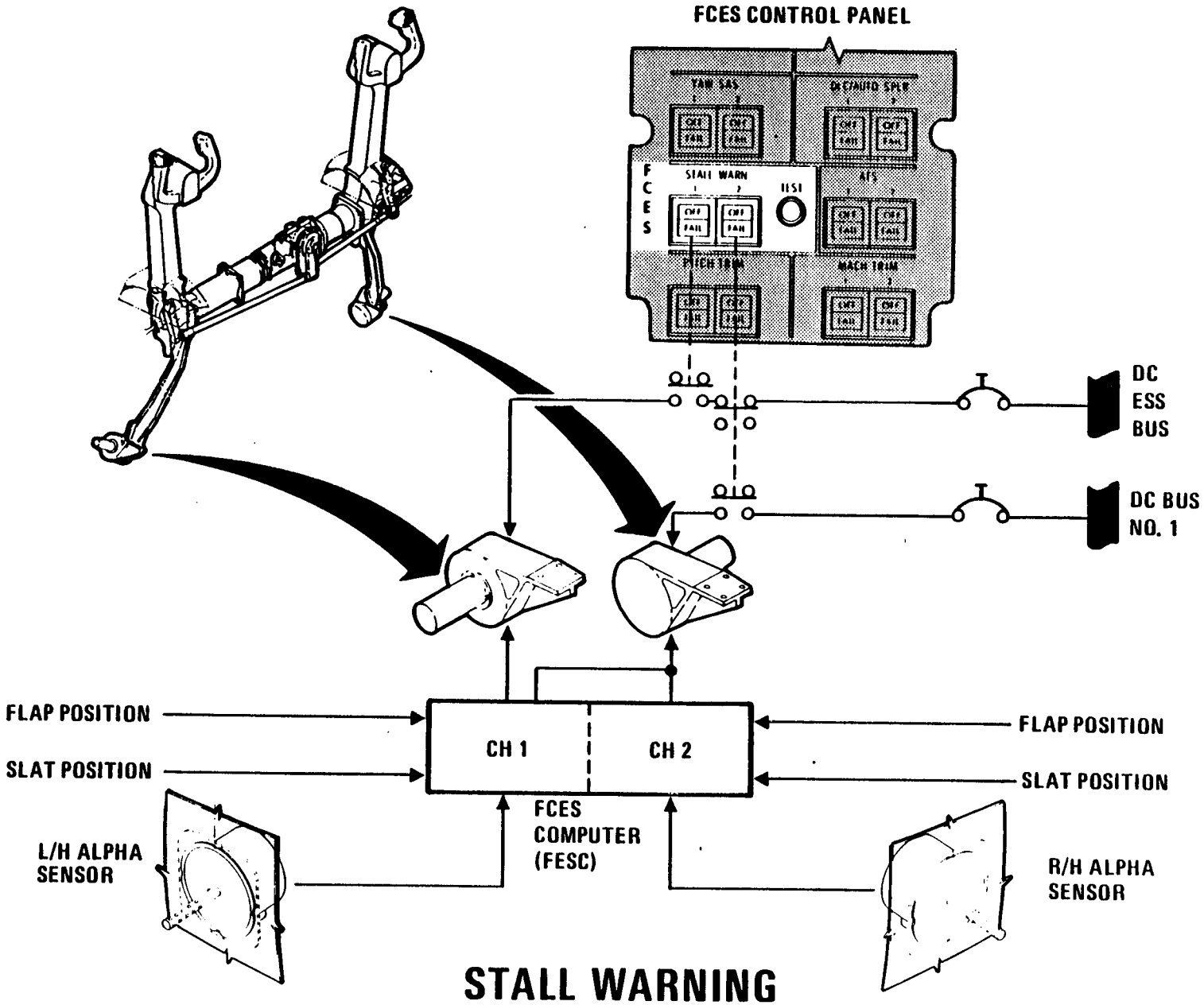
L-1011
11/74



T22-17-0000-597

DLC FIM FUNCTIONAL SCHEMATIC

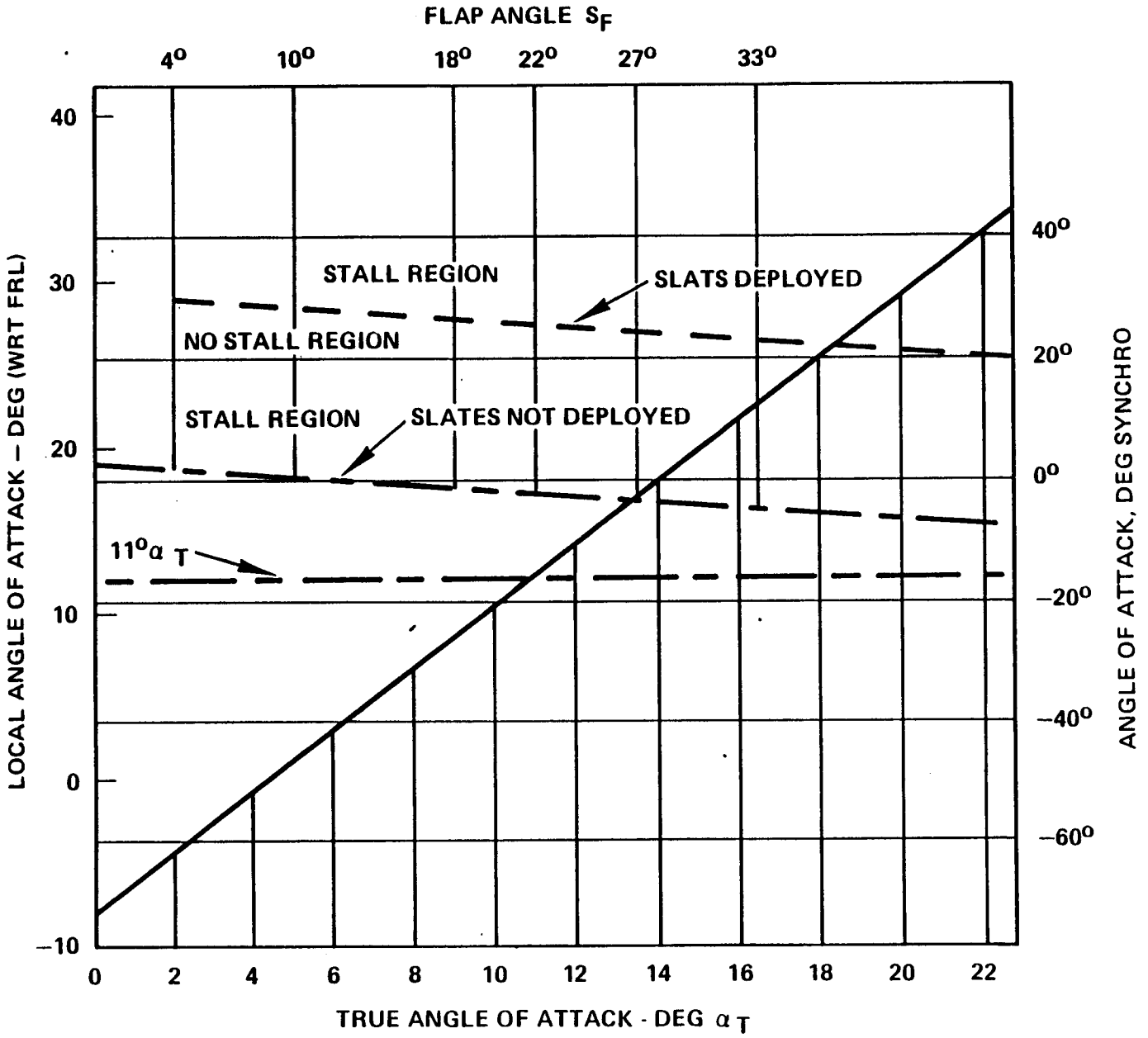
L-1011
7/76



STALL WARNING FUNCTIONAL BLOCK DIAGRAM

T22-17-0000-604

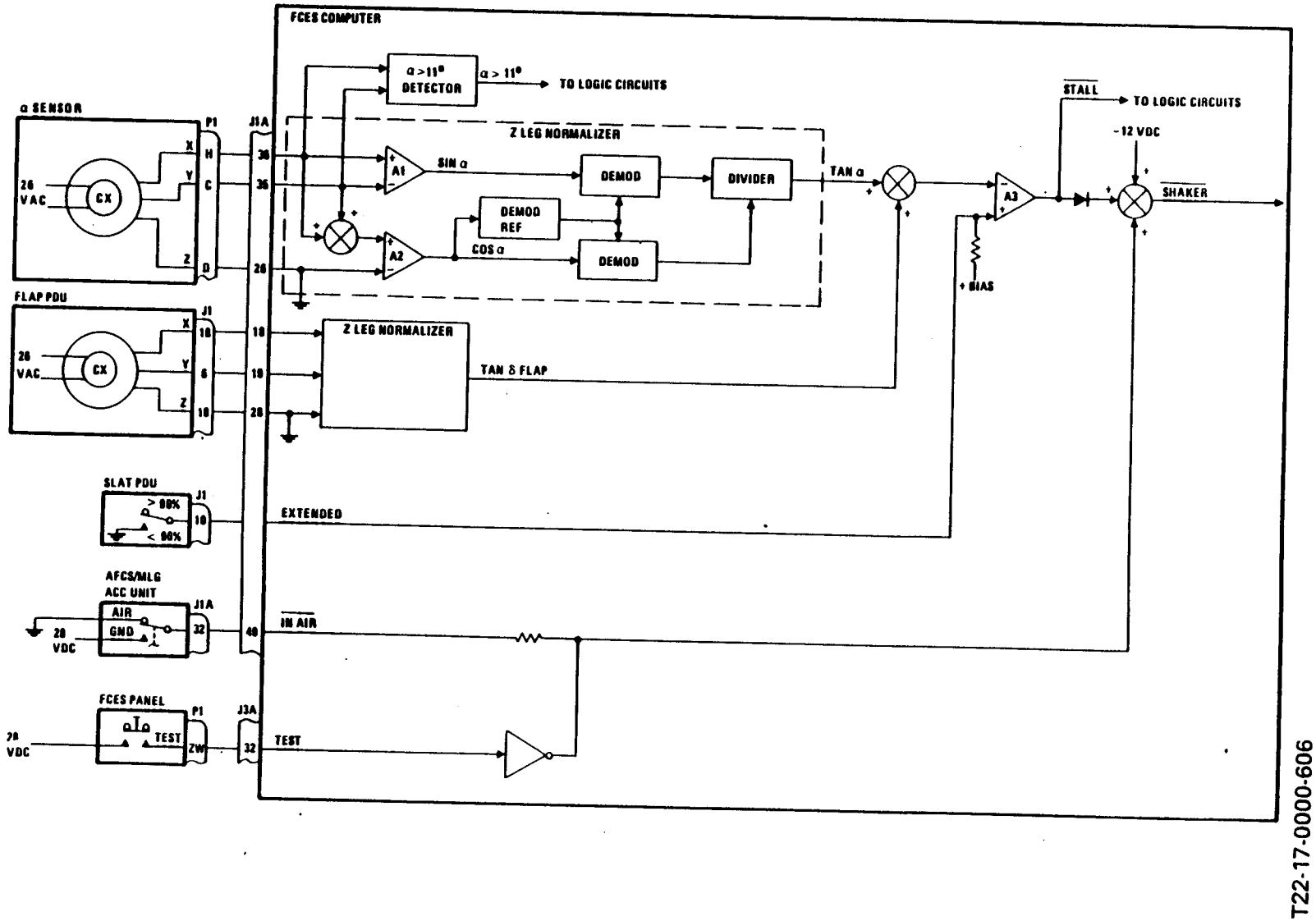
L-1011
7/76



T22-17-0000-605

STALL WARNING RELATIONSHIPS

L-1011
7/76

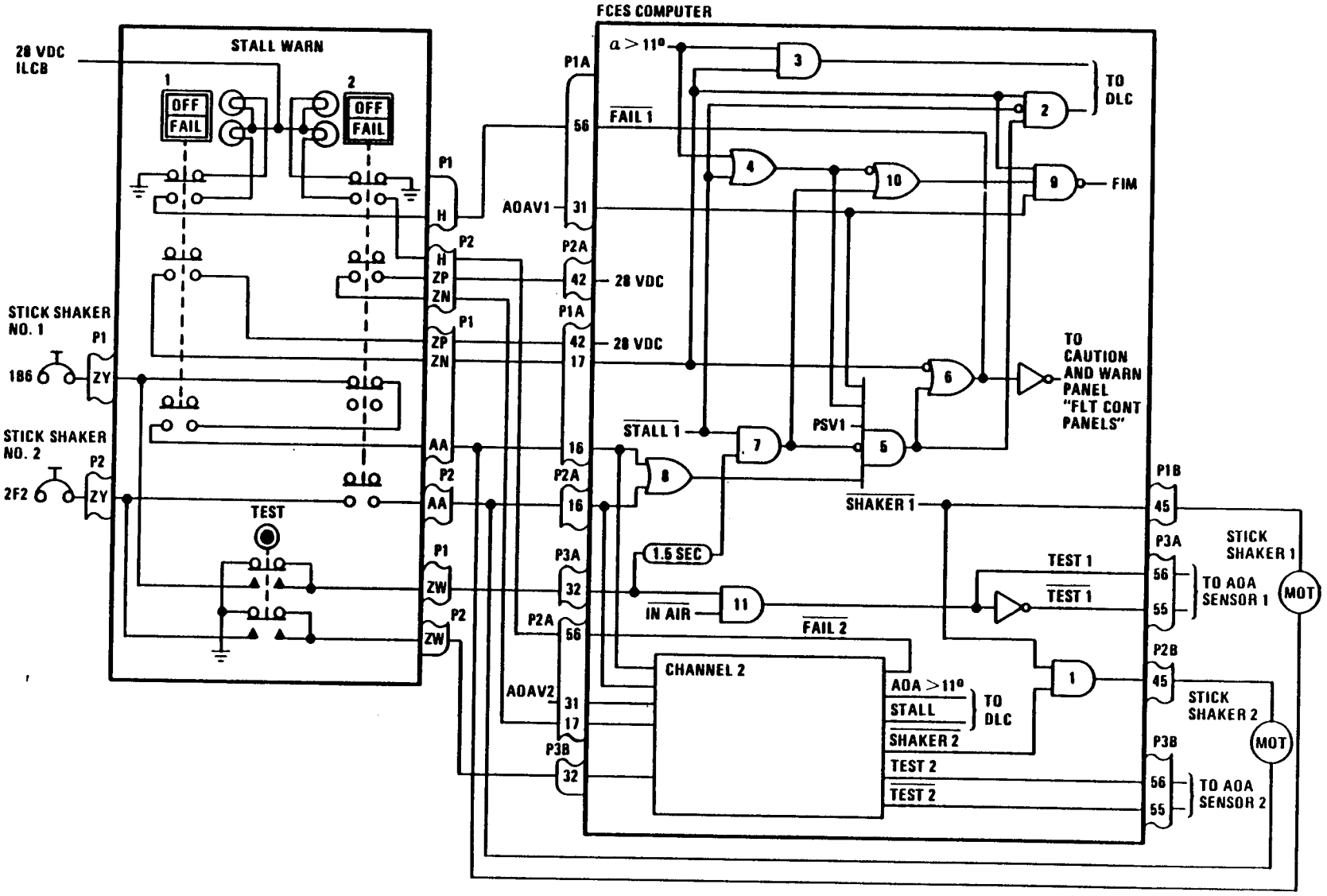


T22-17-0000-606

T22-17-0000-606

STALL WARNING SIMPLIFIED ANALOG SIGNAL FLOW

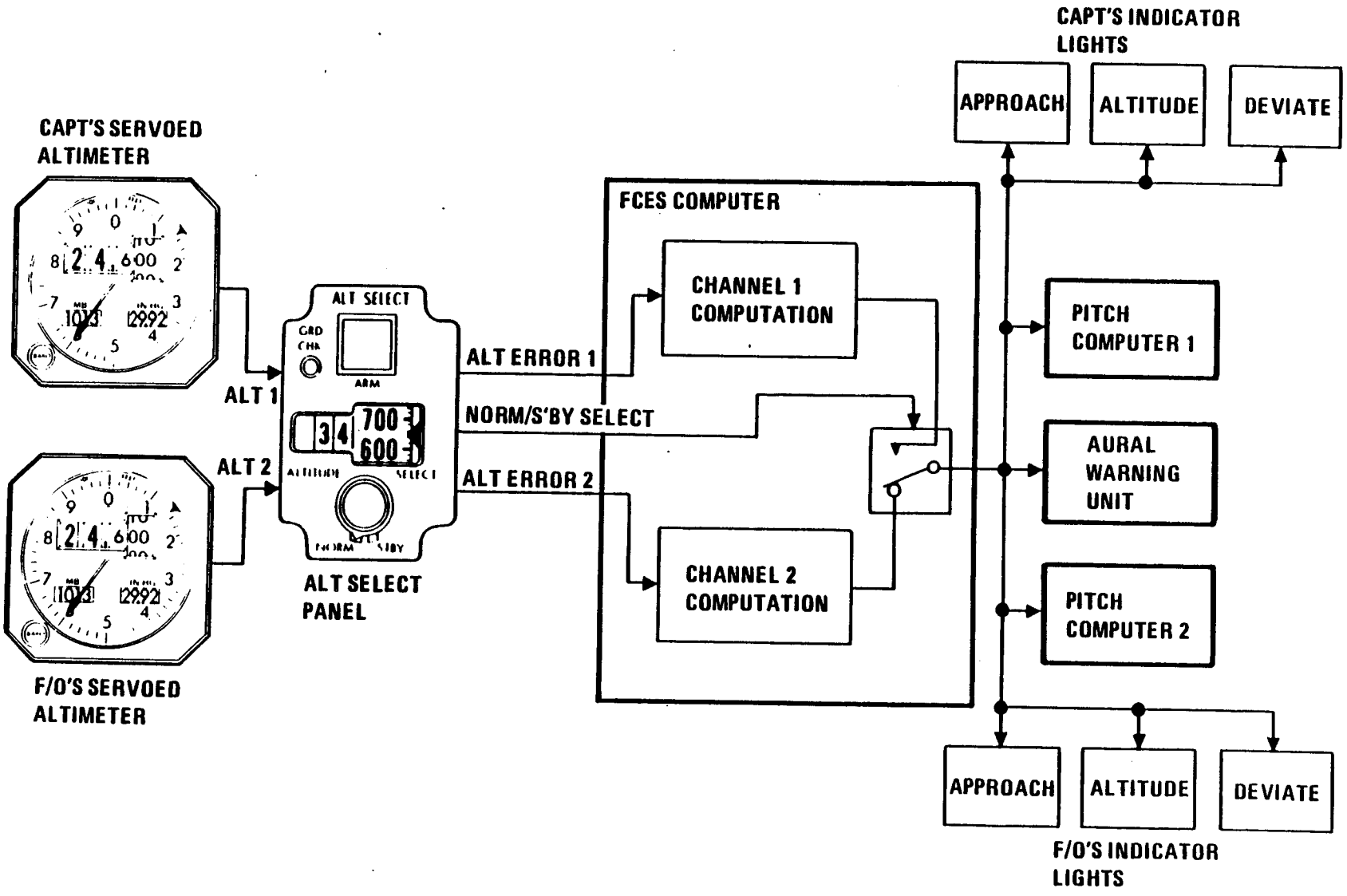
L-1011
7/76



T-22-17-0001-607

STALL WARNING SWITCHING AND LOGIC

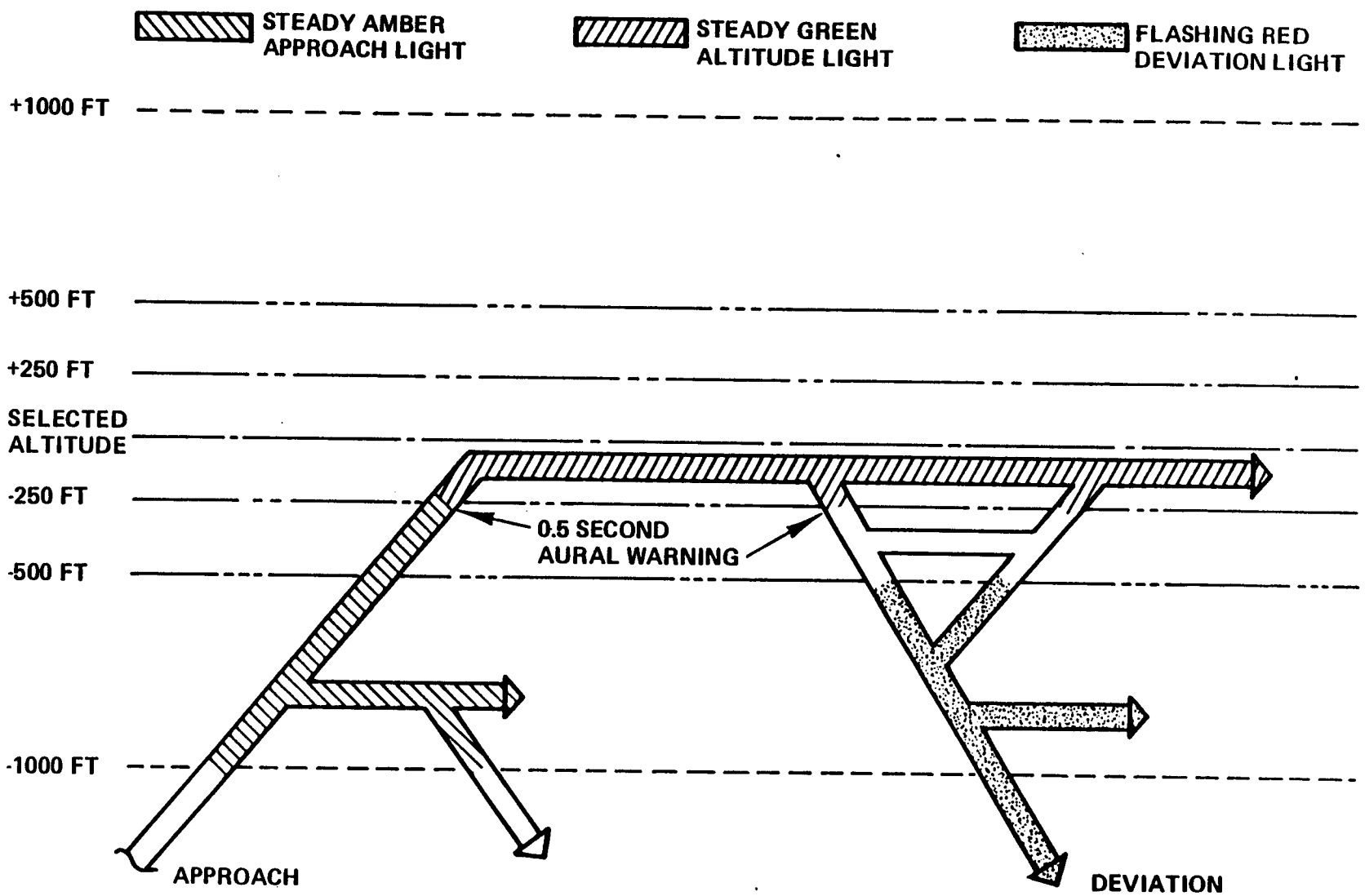
L-1011
10/76



ALTITUDE ALERT/SELECT BLOCK DIAGRAM

T22-17-0000-609

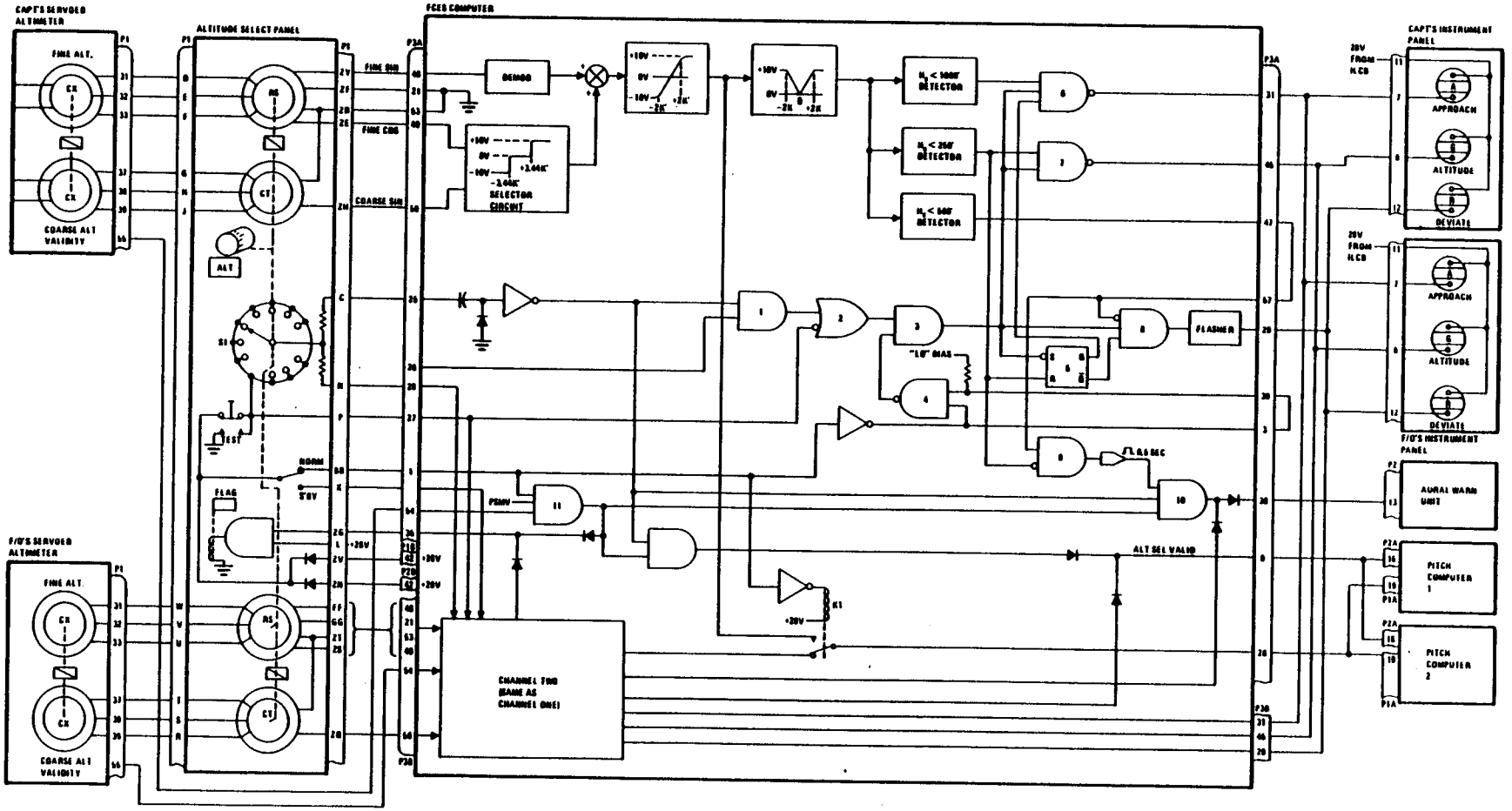
L-1011
7/76



T-22-17-5000-316

ALTITUDE ALERT SYSTEM OPERATION

L-1011
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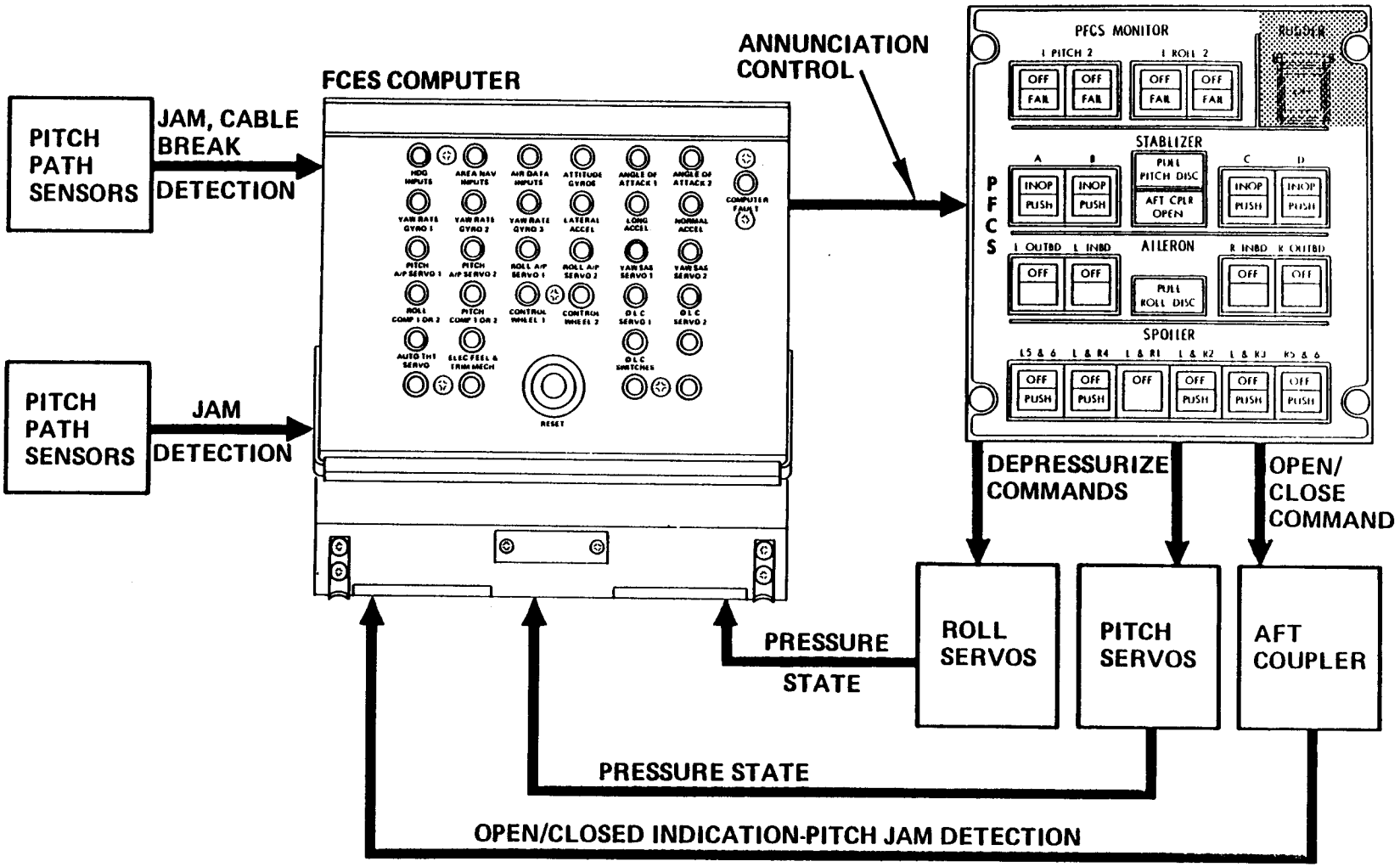


T22-17-0004-039

ALTITUDE ALERT FUNCTIONAL DIAGRAM

L-1011
7/76

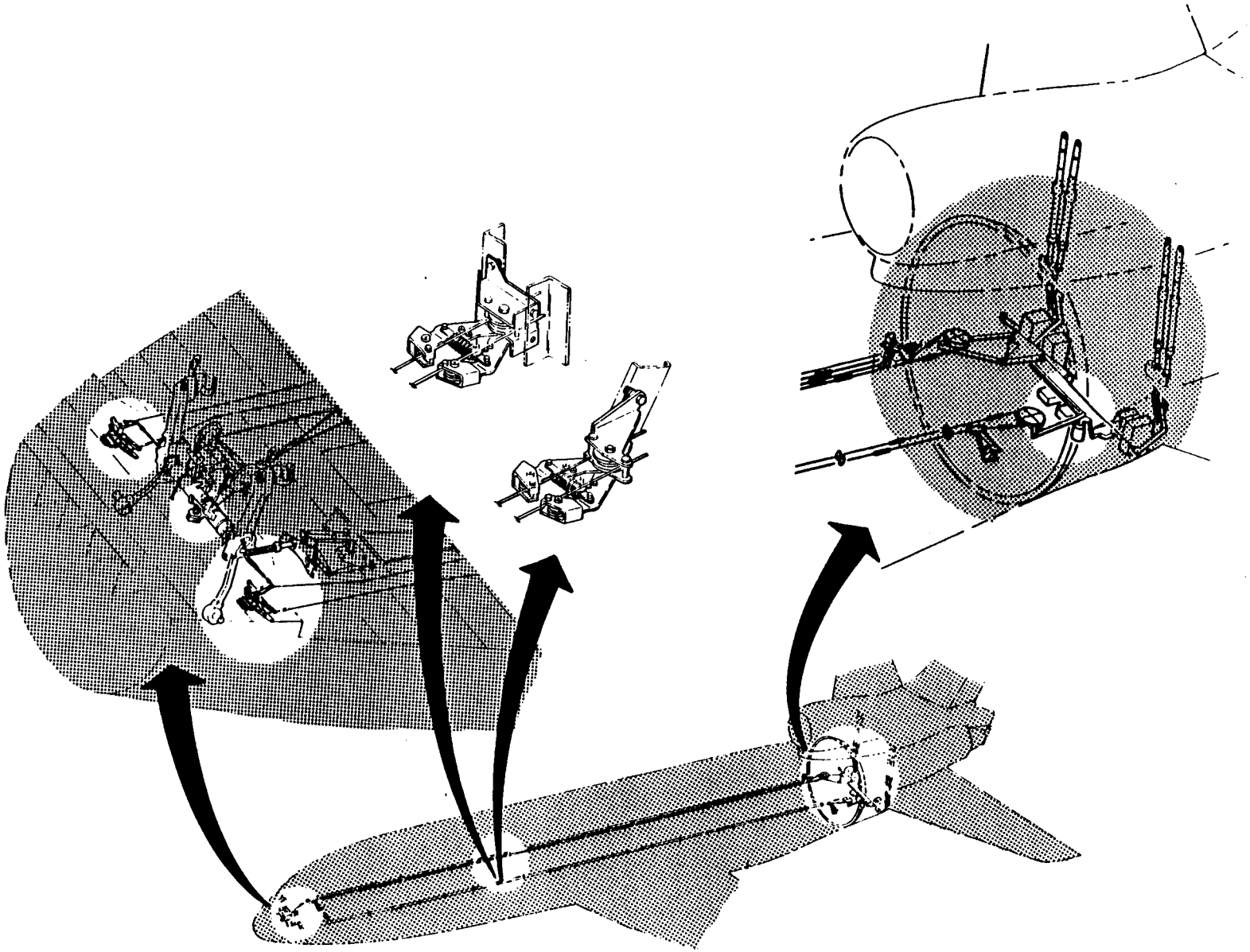
T22-17-0004-039



T-22-17-0003-324

PFCS MONITOR BLOCK DIAGRAM

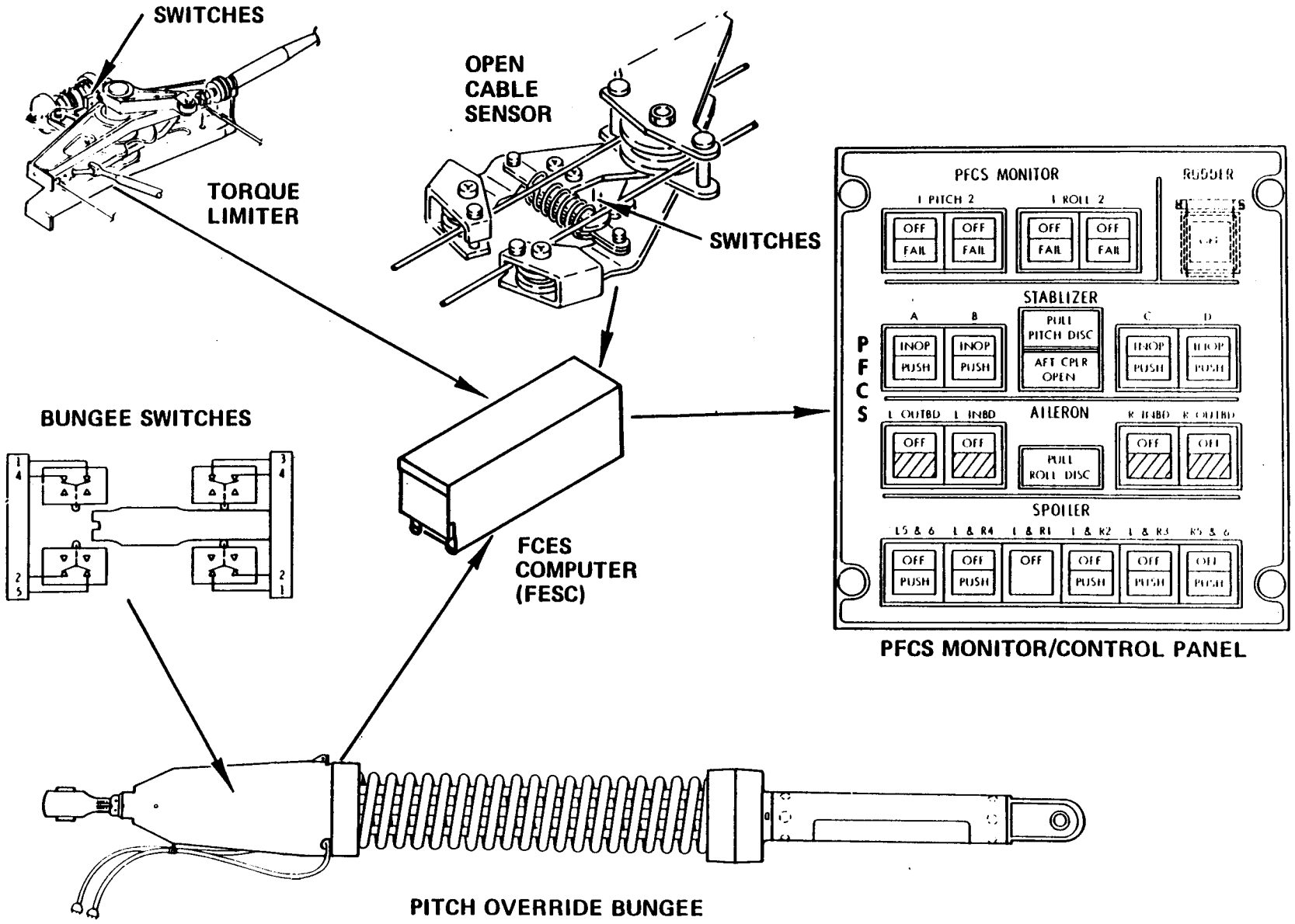
L-1011
9/78



T-22-17-0000-661

PFCS MONITOR SENSORS

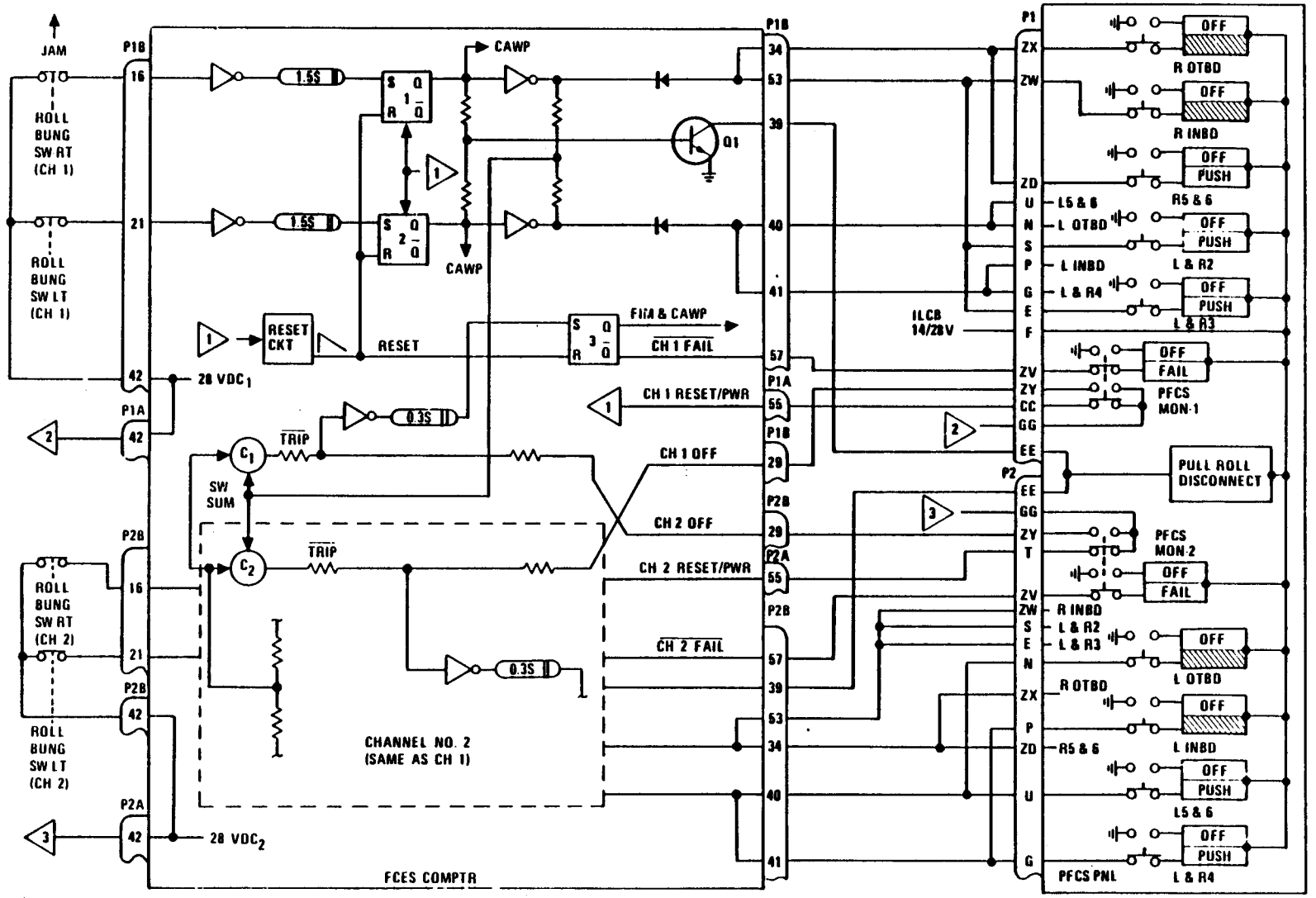
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9/78



T-22-17-0002-324

PFCS SIMPLIFIED BLOCK DIAGRAM

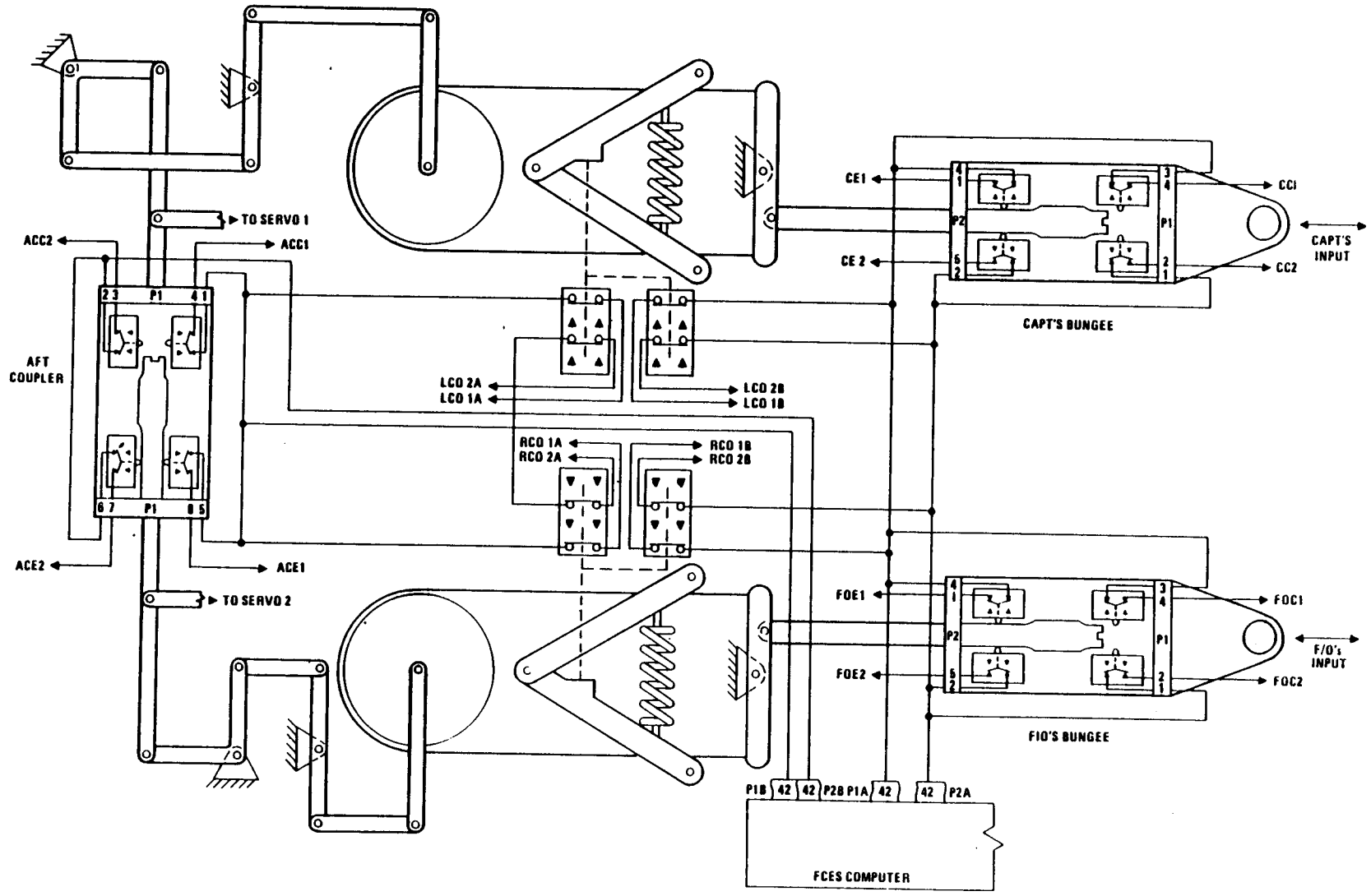
L-1011
2/74



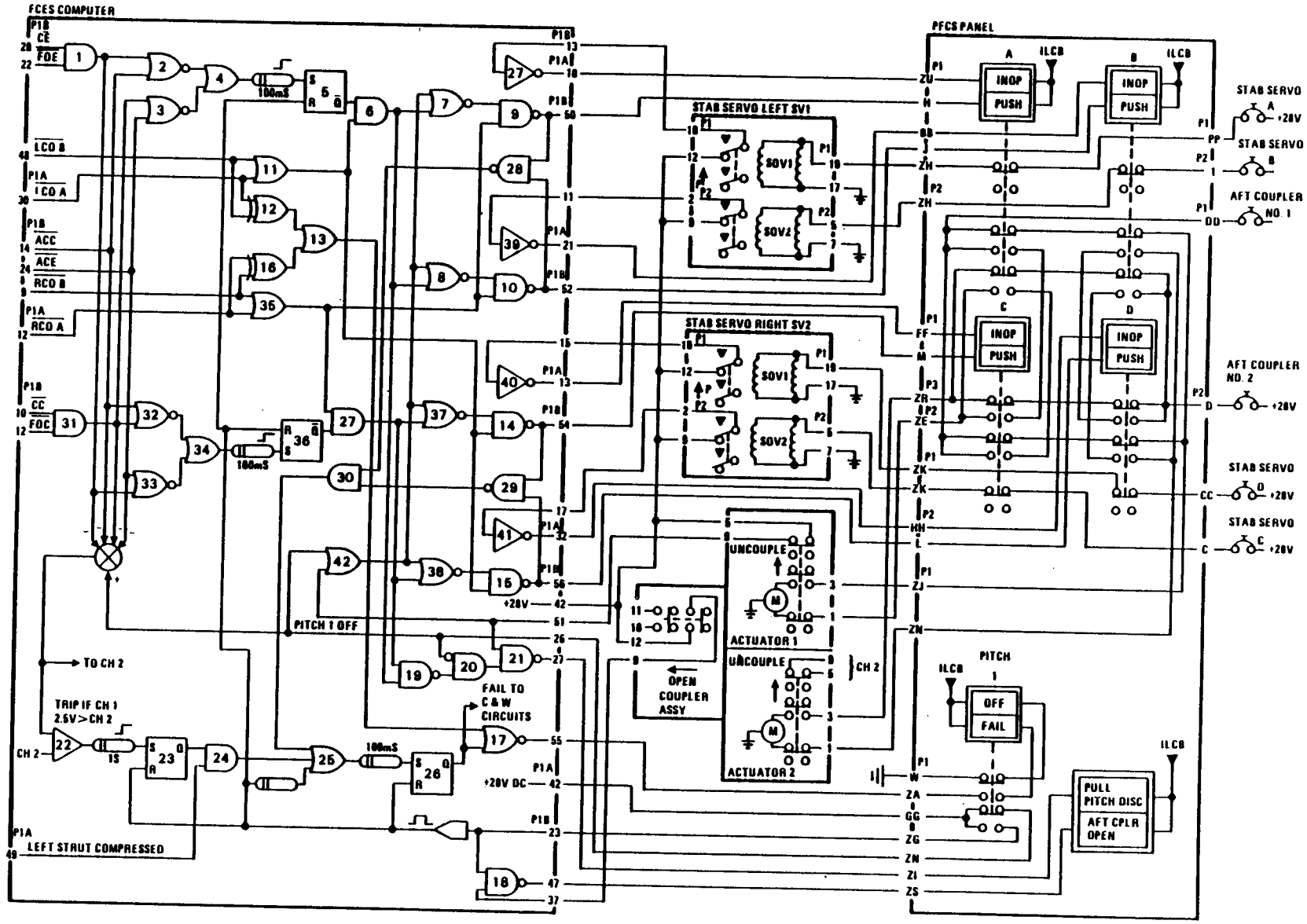
T-22-17-0002-429

AILERON MONITOR SCHEMATIC

L-1011
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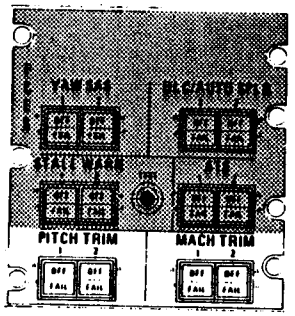
PITCH MONITOR SWITCHES FUNCTIONAL DIAGRAM



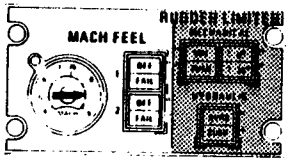
T-22-17-0006-430

STABILIZER MONITOR FUNCTIONAL DIAGRAM

L-1011
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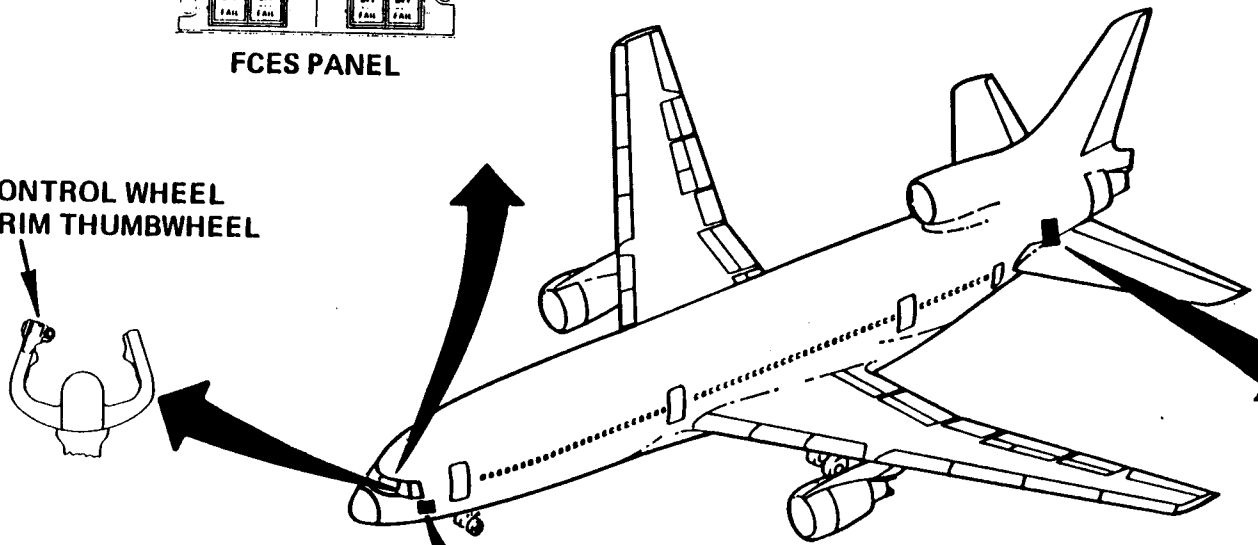


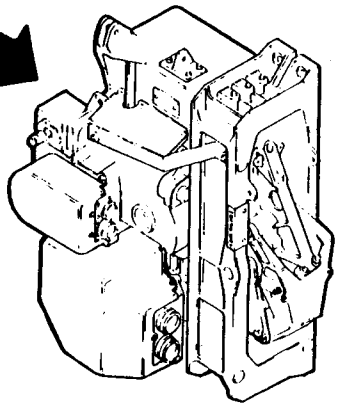
FCES PANEL



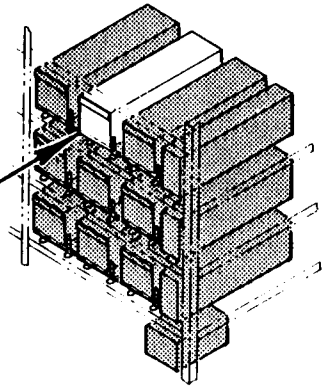
FLIGHT CONTROL PANEL

CONTROL WHEEL TRIM THUMBWHEEL





ELECTRICAL PITCH FEEL AND TRIM ASS'Y (ROTATED 90°)

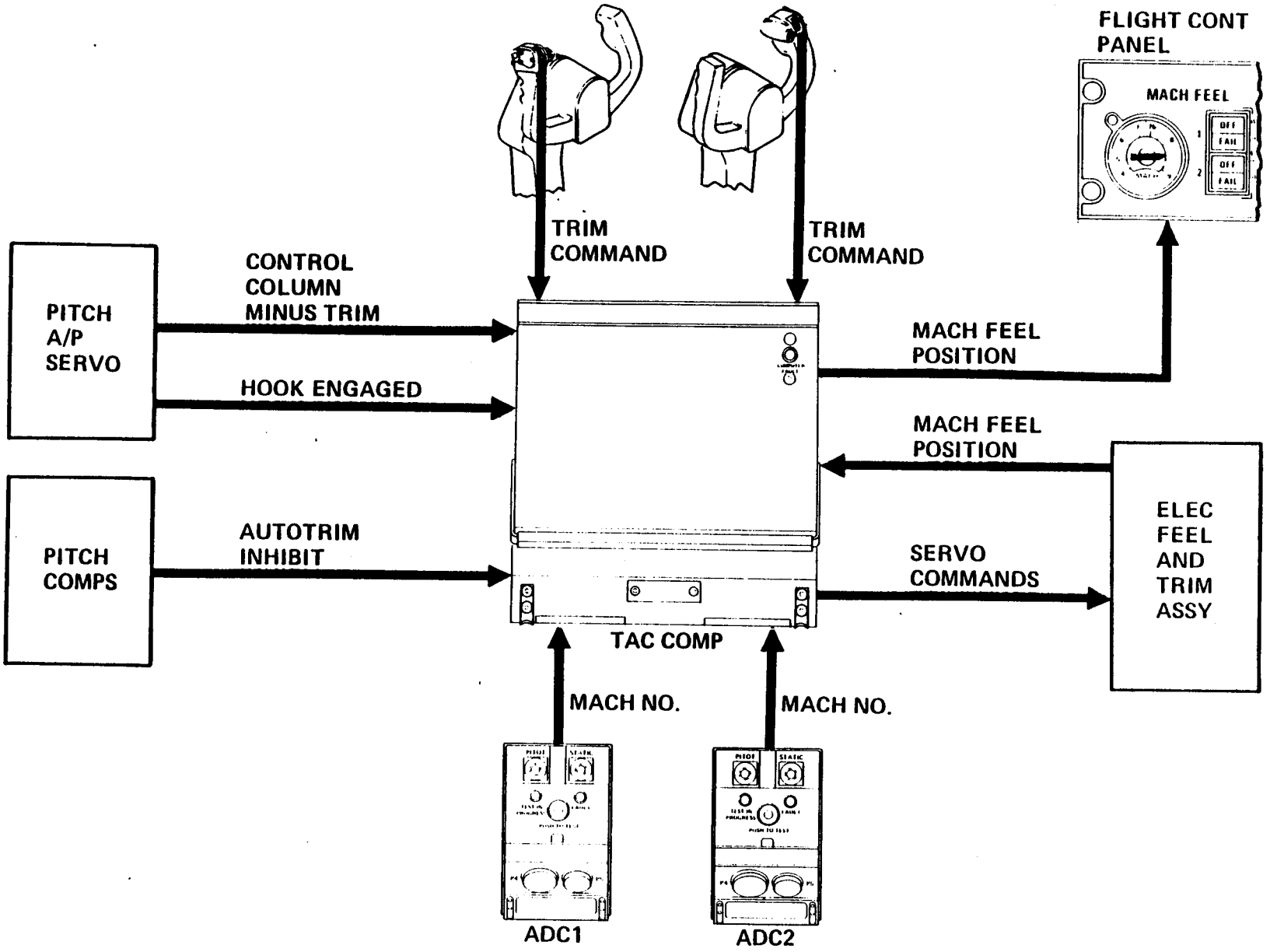


TRIM AUG COMPUTER

PITCH TRIM AND FEEL COMPONENT LOCATION

T22-18-0000-611

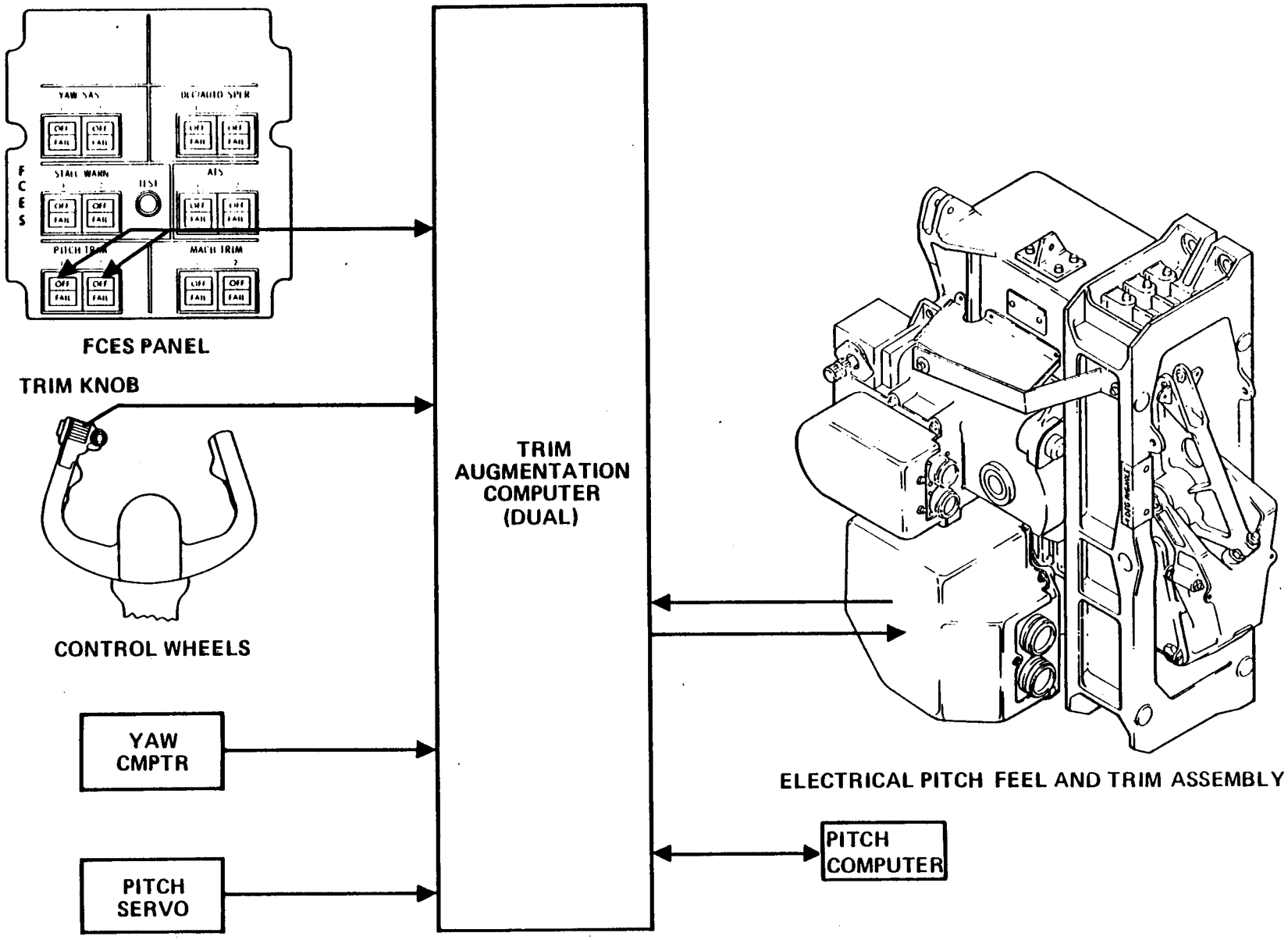
L-1011
8/76



T-22-18-0000-662

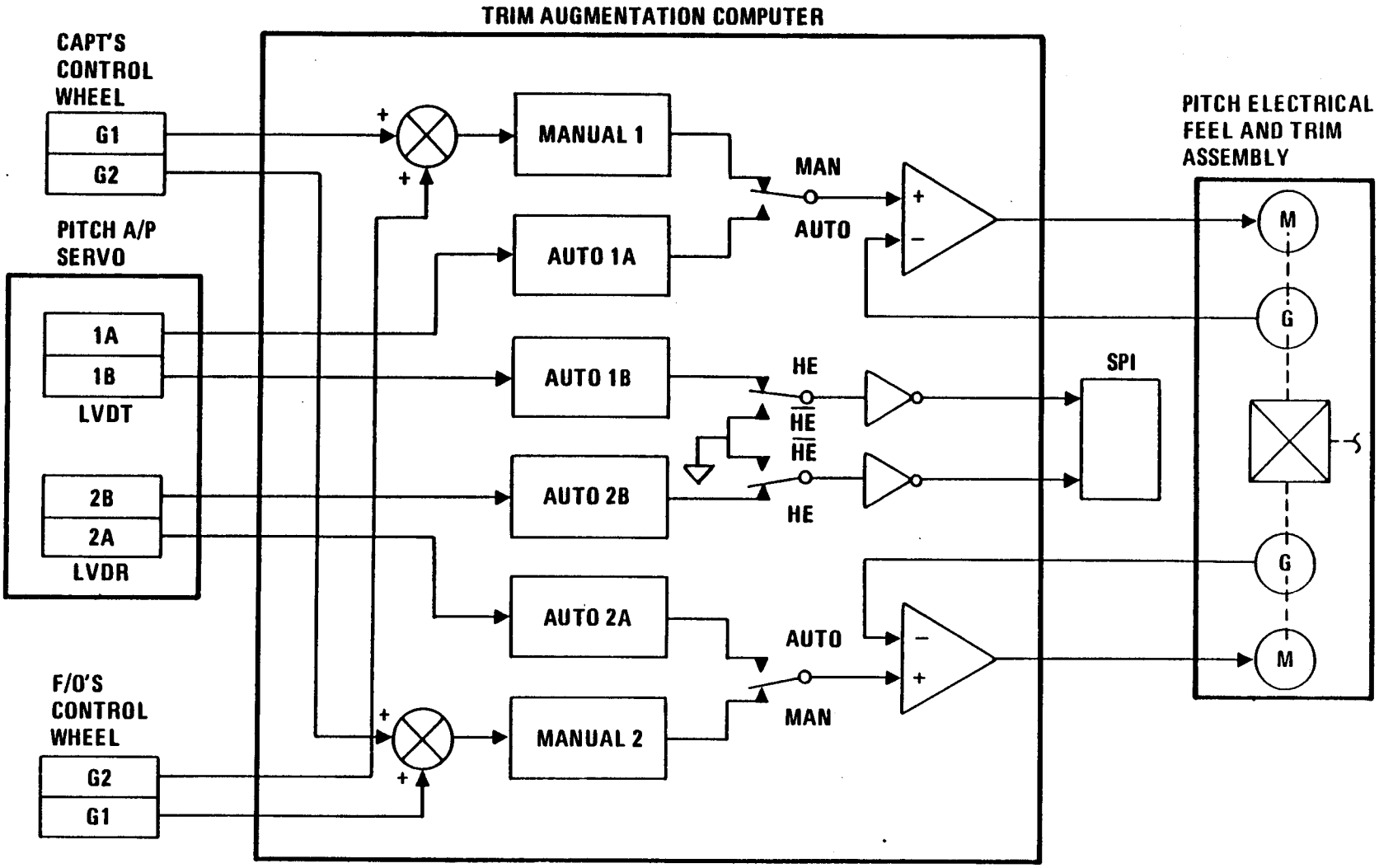
TRIM AND FEEL SYSTEM BLOCK DIAGRAM

L-1011
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S-22-18-0001-310 **PITCH TRIM SYSTEM SIMPLIFIED BLOCK DIAGRAM**

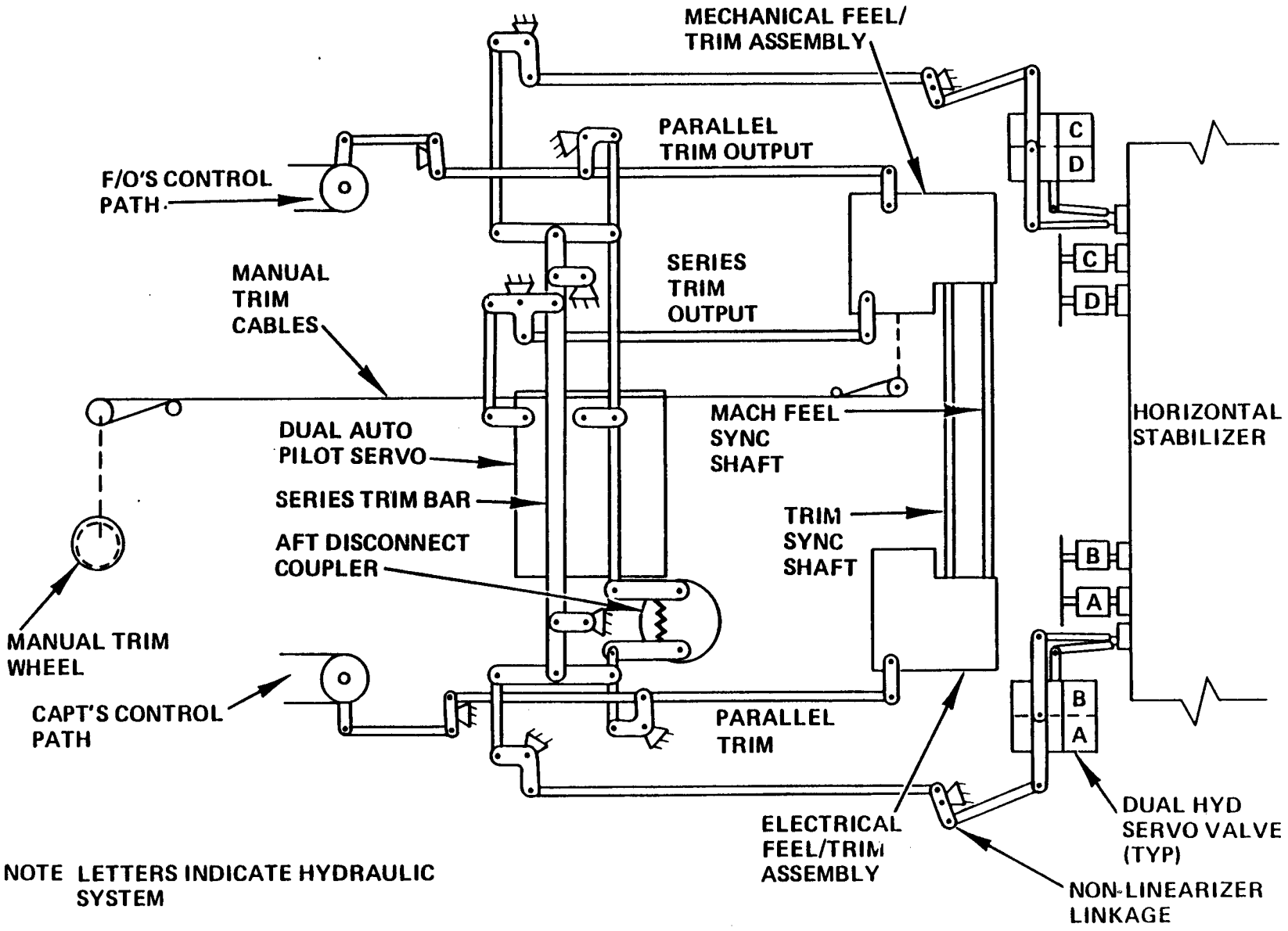
L-1011
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T22-18-0002-310

PITCH ELECTRIC TRIM BLOCK DIAGRAM

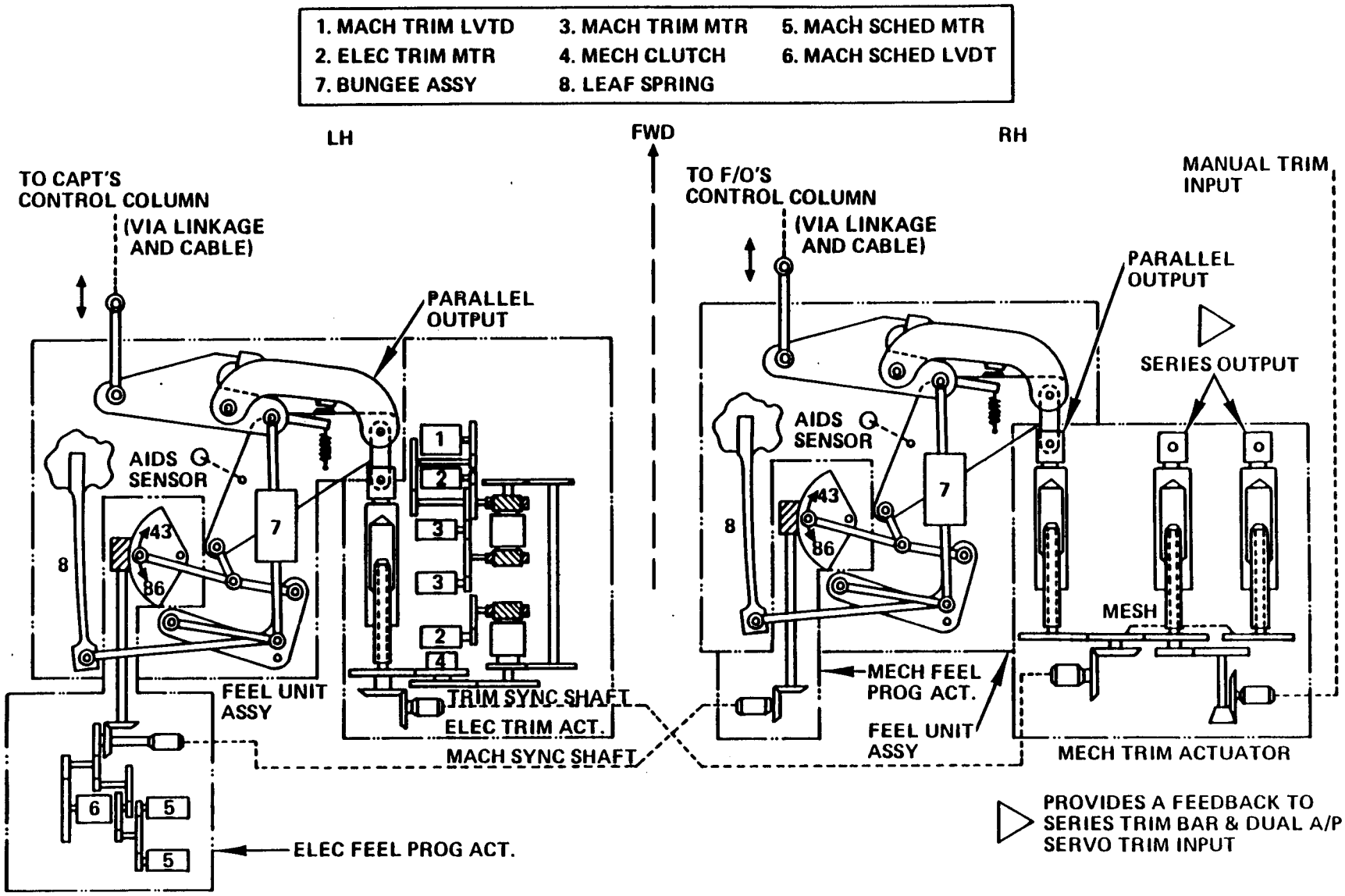
L-1011
8/76



T-22-18-0000-612

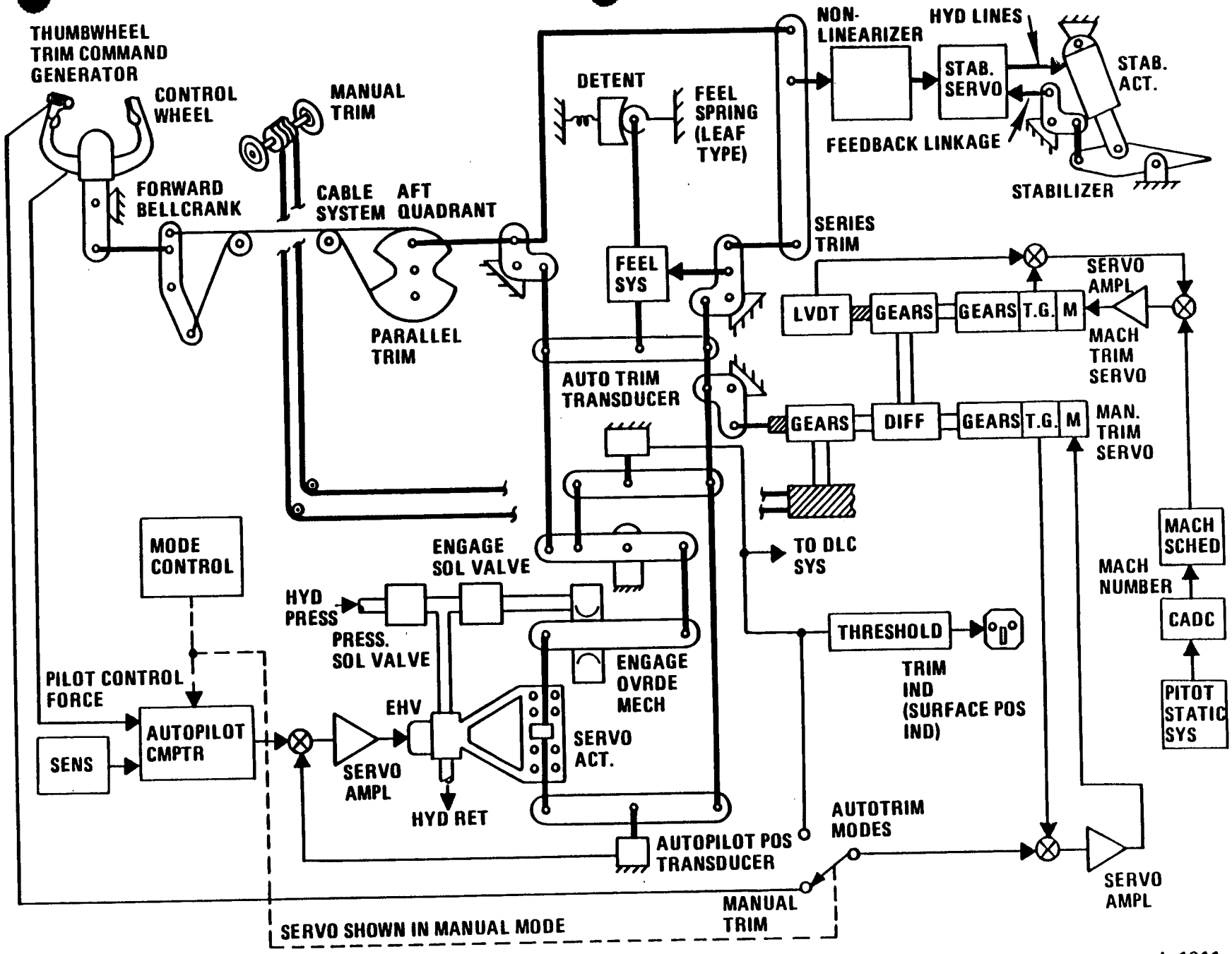
PITCH TRIM CONTROL PATHS

L-1011
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T-22-18-0100-036

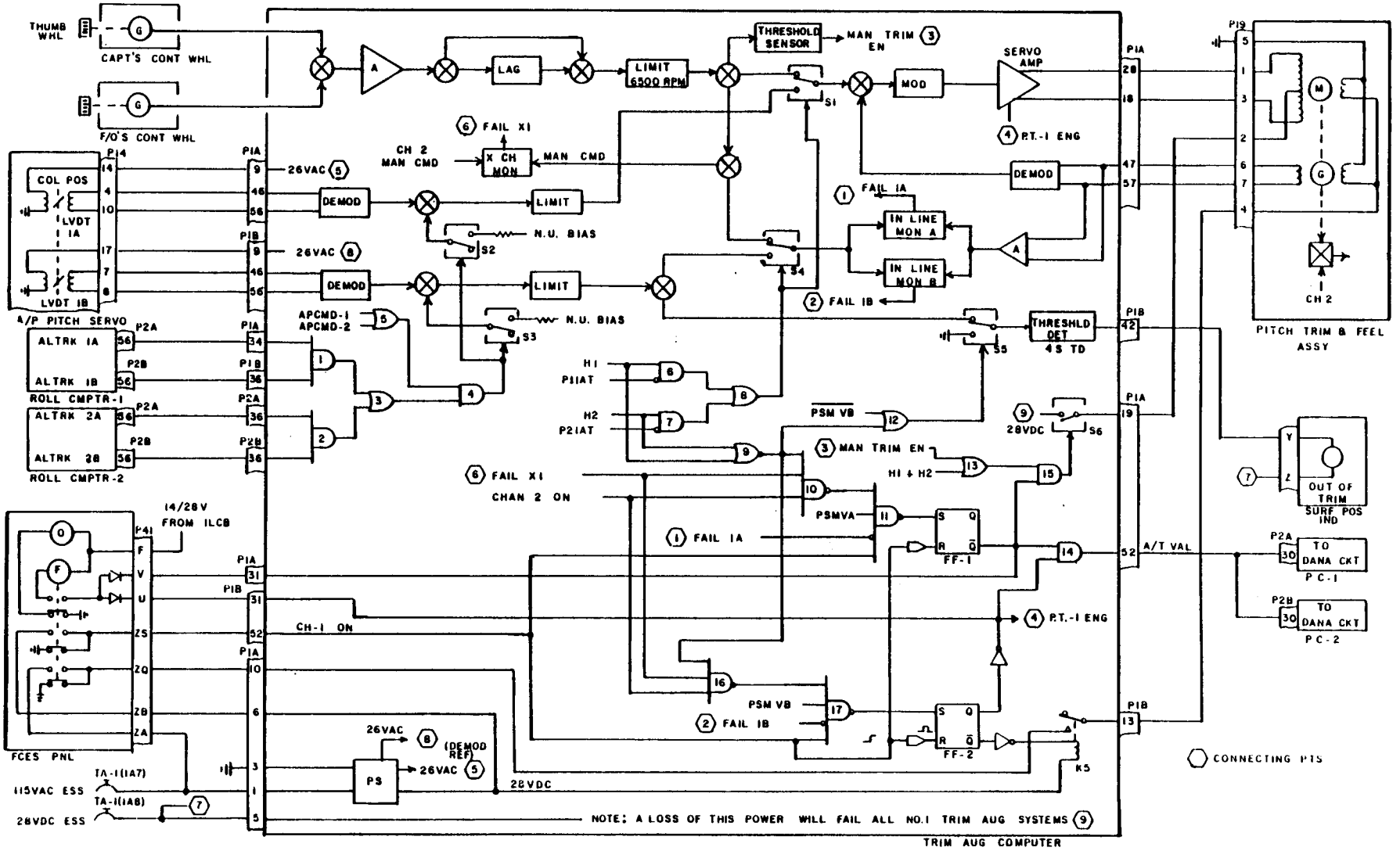
PITCH SYSTEM FEEL AND TRIM MECHANICAL SCHEMATIC



T-22-18-0100-078

ELECTRICAL PITCH TRIM SYSTEM BLOCK DIAGRAM

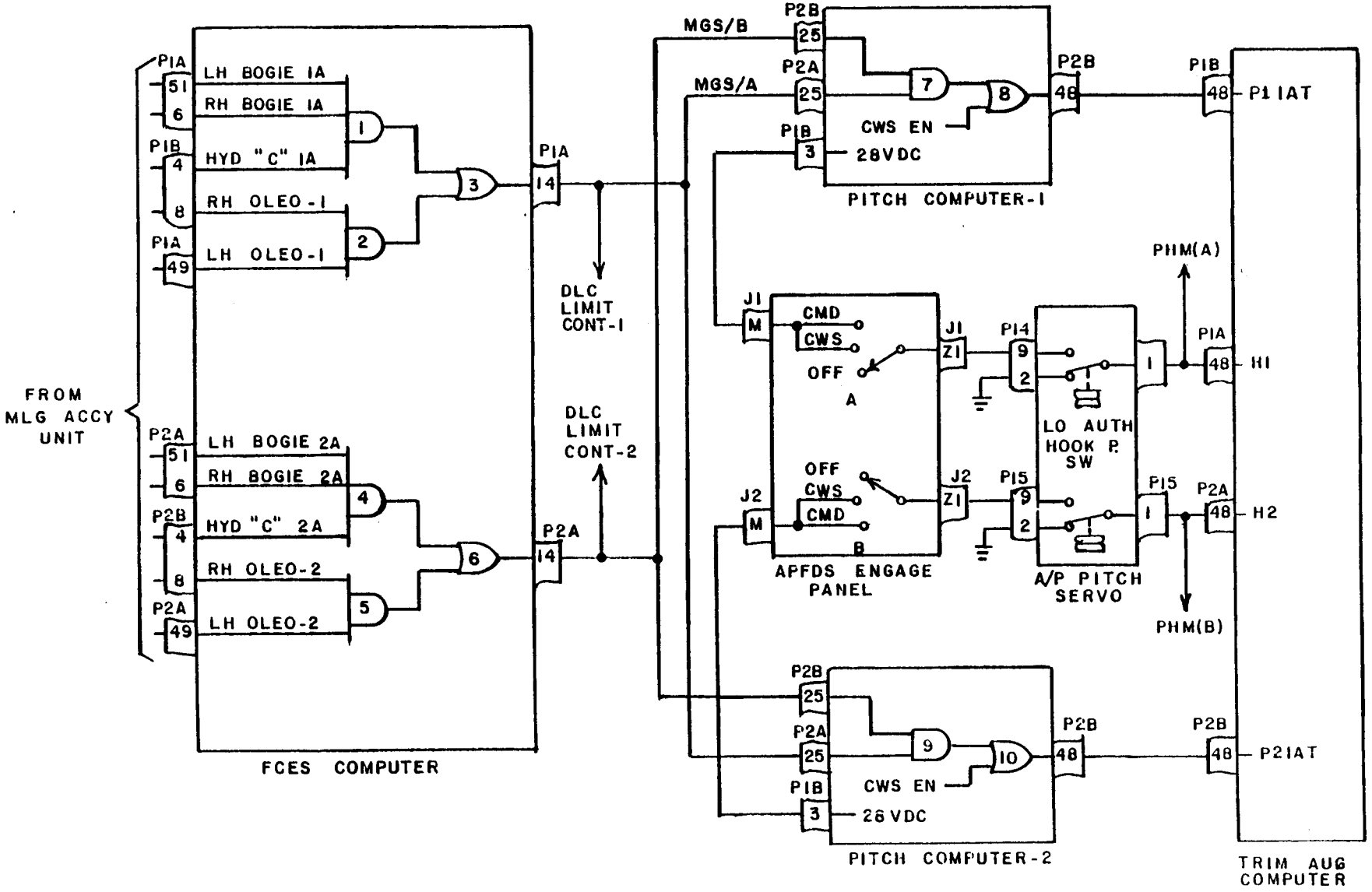
L-1011
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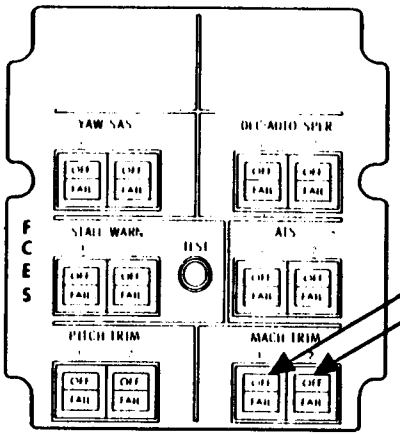
T22-18-447(TW)

NO.1 PITCH TRIM SYSTEM SCHEM

L10II(9-78)



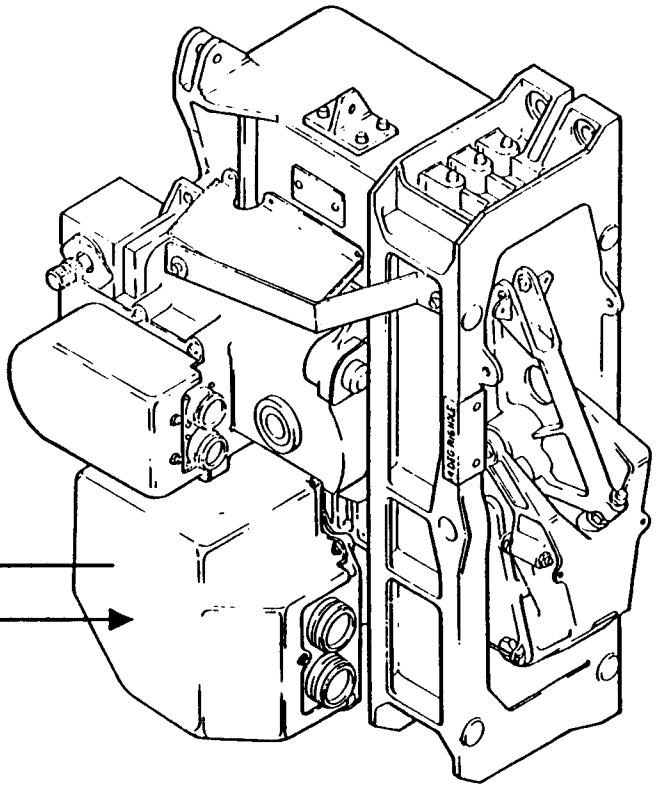
T22-18-448 (TW) AUTO TRIM(PITCH) CONTROL LOGIC L1011 11-77



FCES PANEL

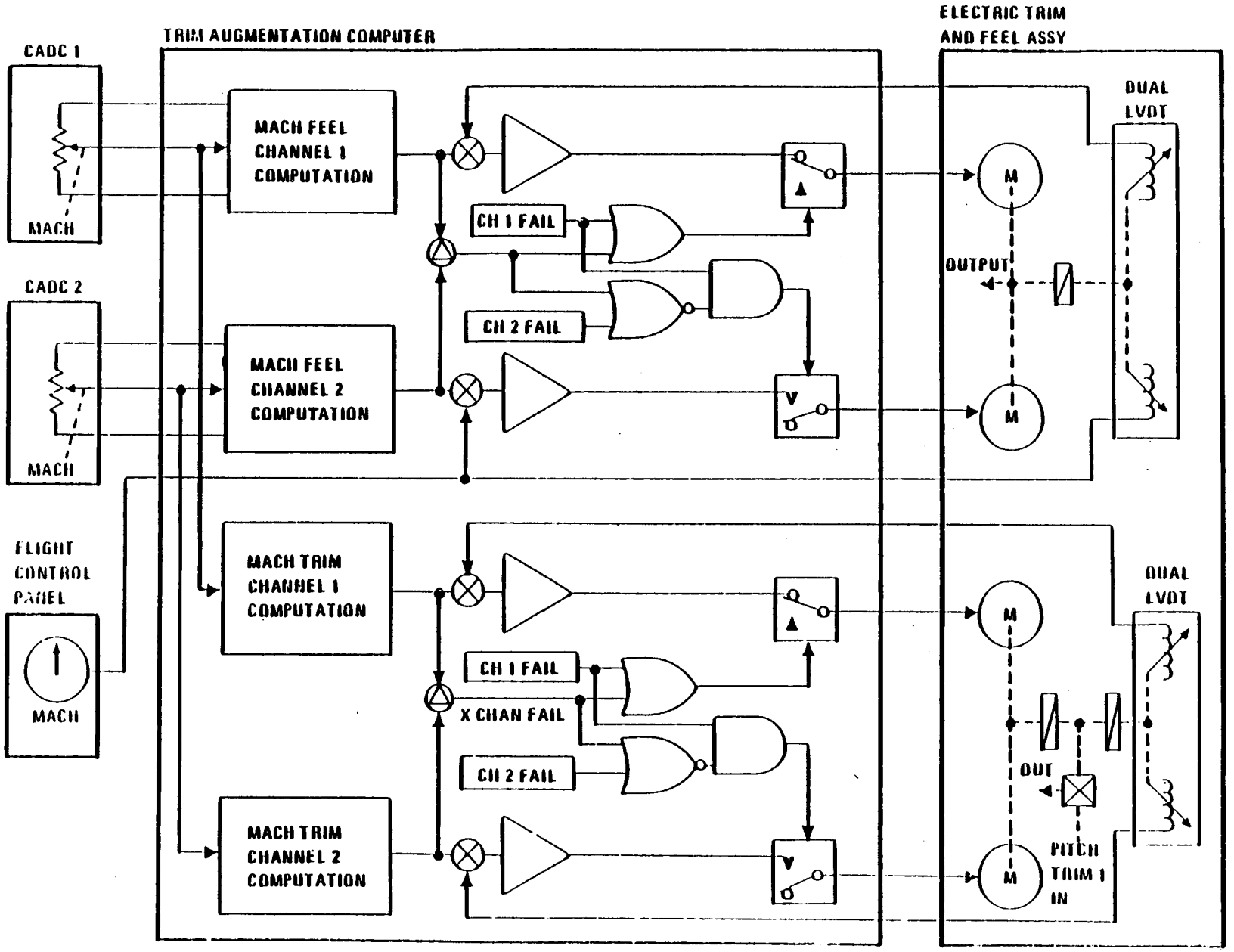
TRIM AUGMENTATION COMPUTER (DUAL)

CADC

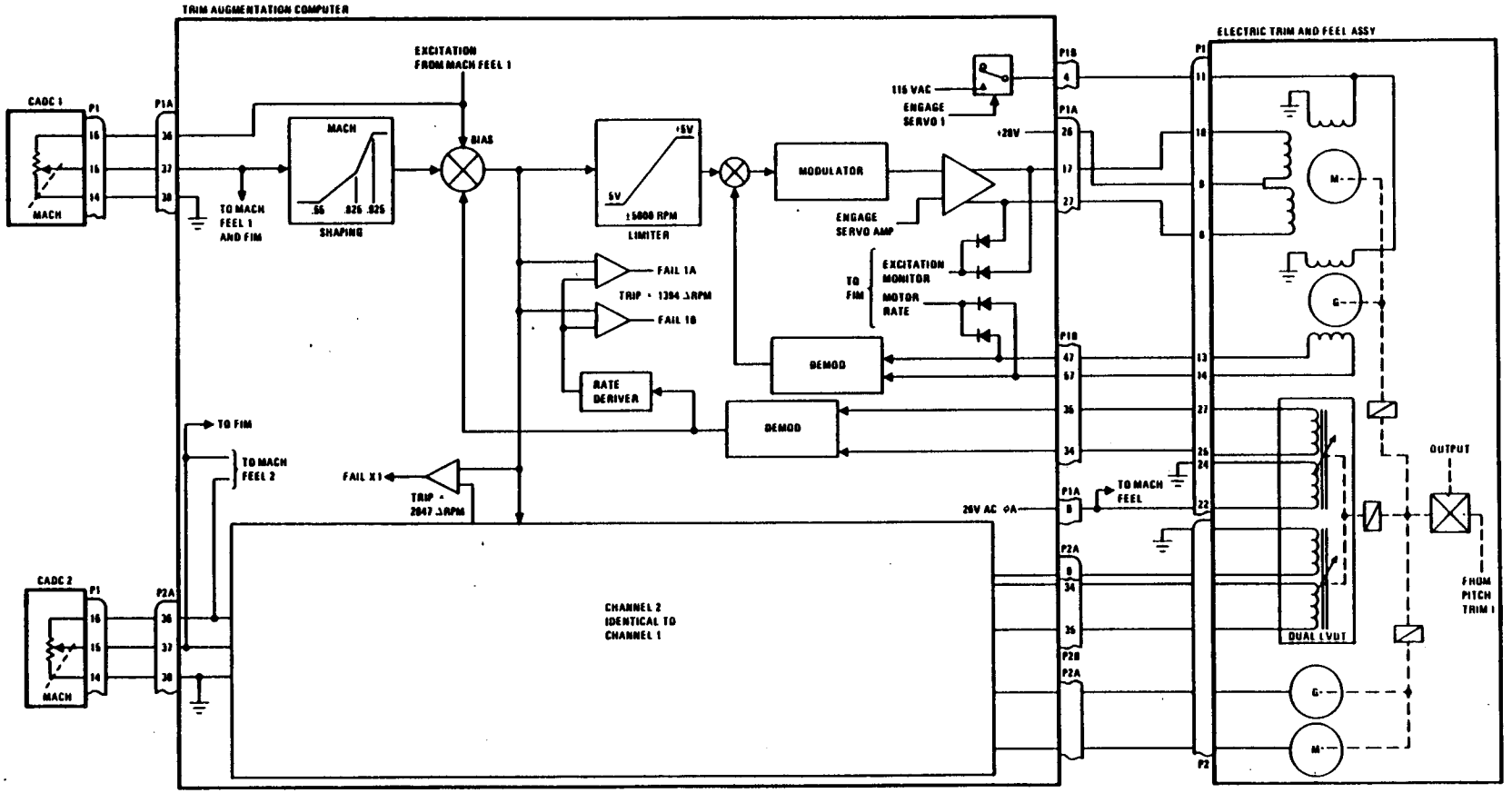


ELECTRICAL PITCH FEEL AND TRIM ASSEMBLY

MACH TRIM SYSTEM SIMPLIFIED BLOCK DIAGRAM



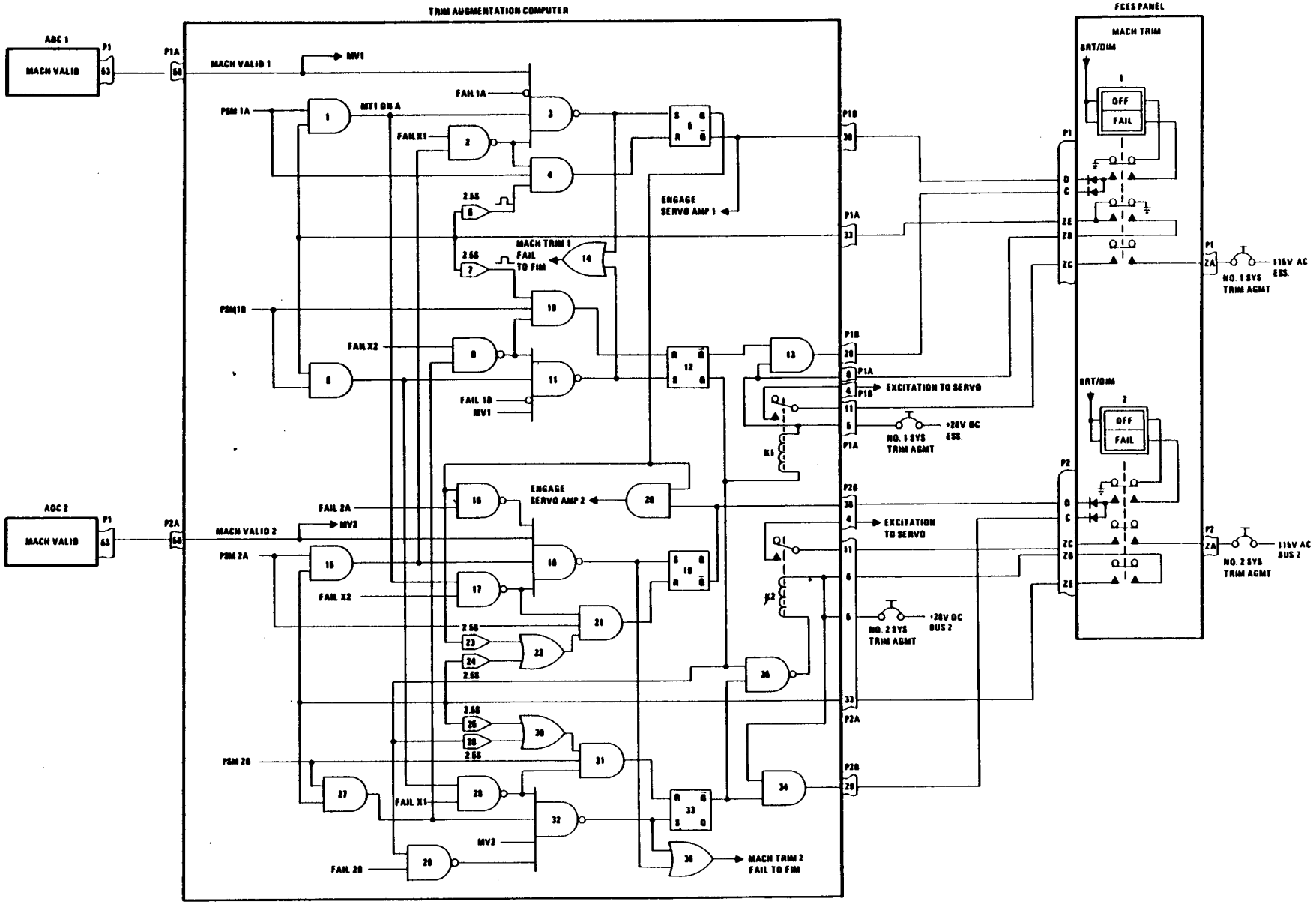
T 22 21 0000-010 **MACH TRIM AND MACH FEEL BLOCK DIAGRAM** L-1011 8/76



T-22-21-0002-008

MACH TRIM FUNCTIONAL ANALOG DIAGRAM

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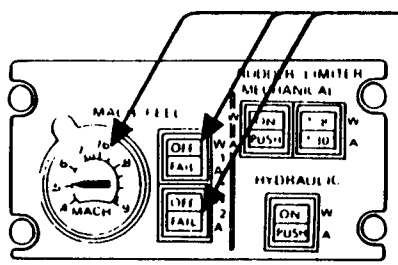


T-22-21-0007-003

MACH TRIM FUNCTIONAL LOGIC DIAGRAM

L-1011

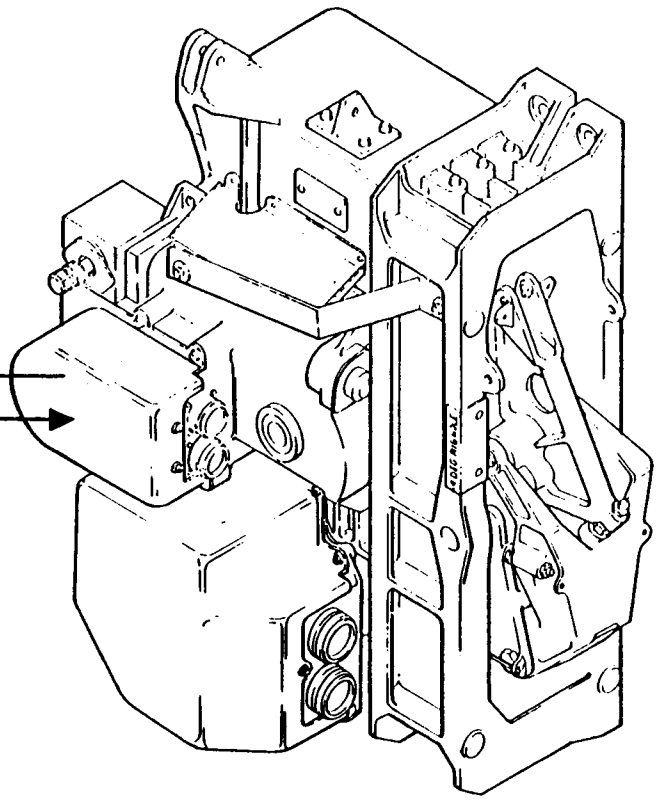
FOR TRAINING PURPOSES ONLY



FLIGHT CONTROL PANEL

TRIM AUGMENTATION COMPUTER (DUAL)

CADC

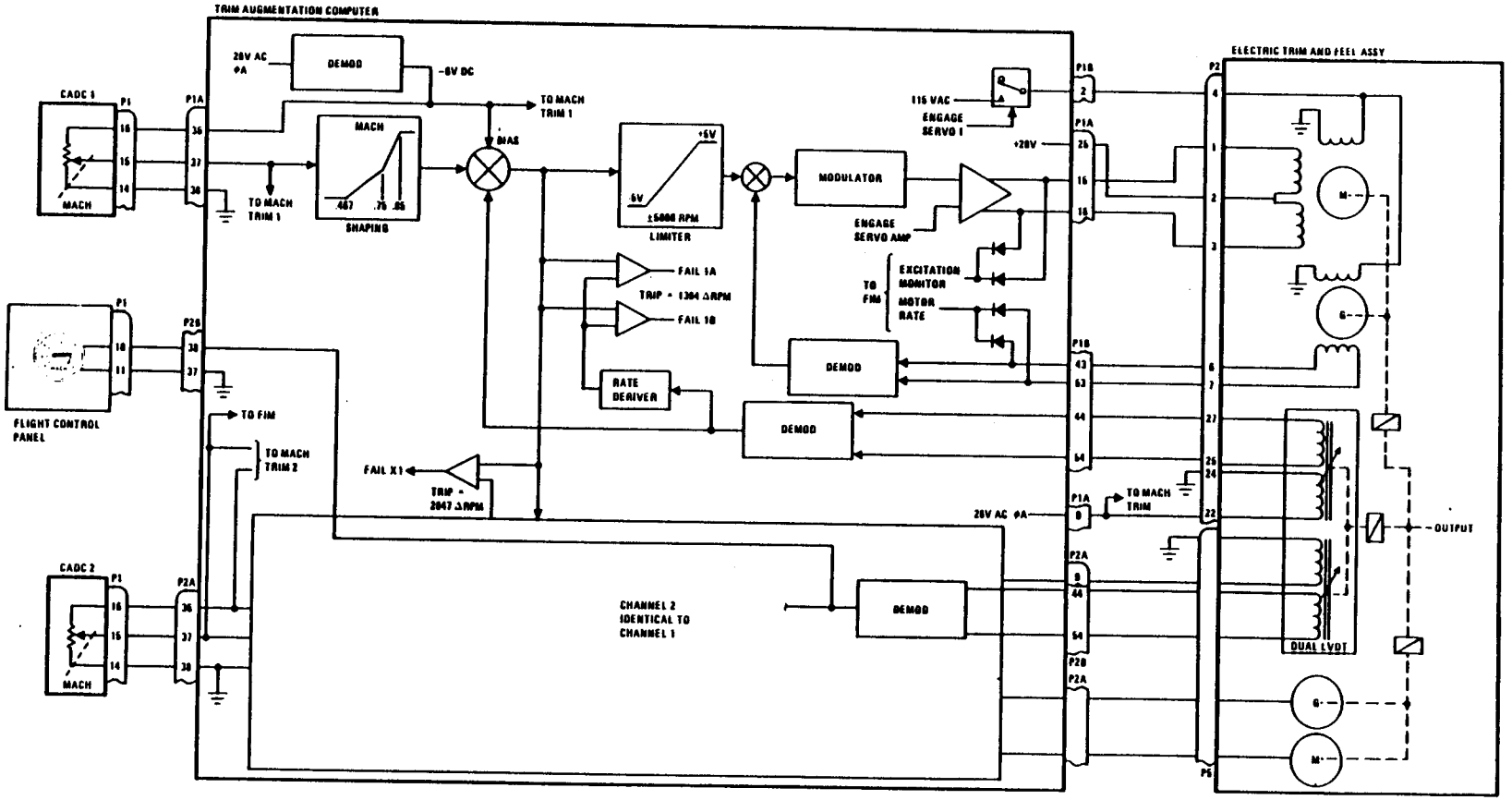


ELECTRICAL PITCH FEEL AND TRIM ASSEMBLY

MACH FEEL SYSTEM SIMPLIFIED BLOCK DIAGRAM

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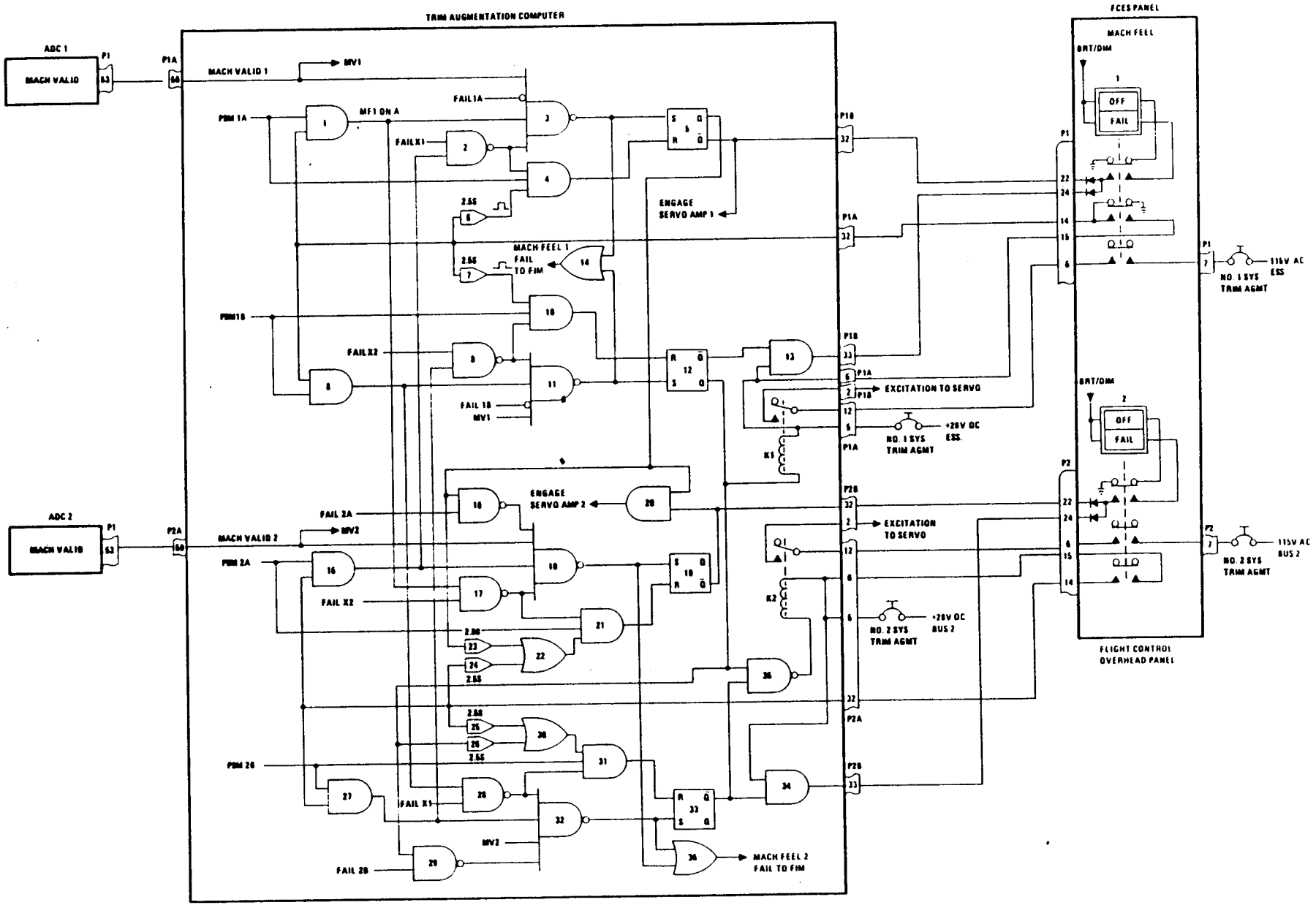


T-22-21-0002-007

MACH FEEL FUNCTIONAL ANALOG DIAGRAM

L-1011
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T-22-21-0002-007

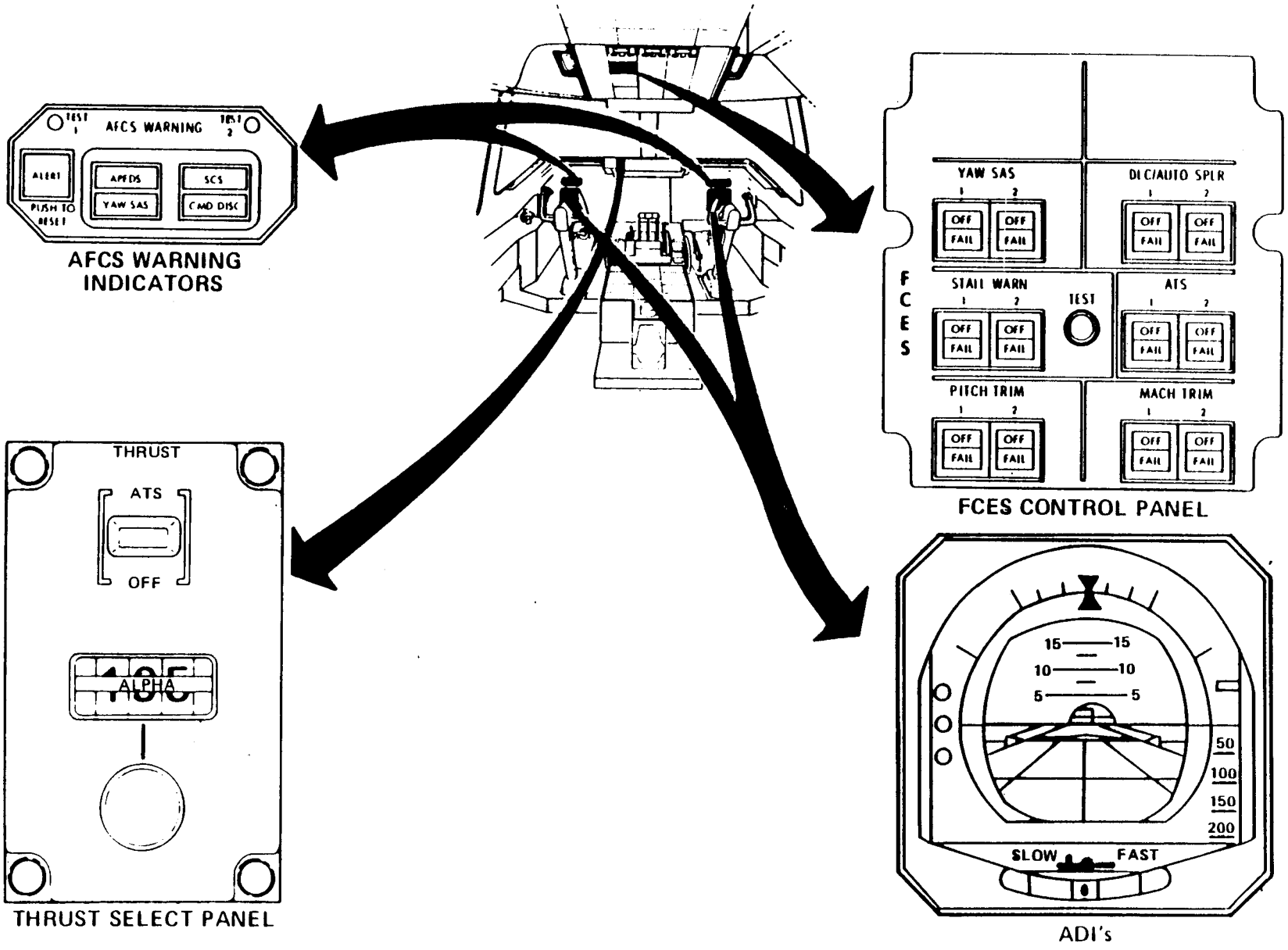


T-22-21-0006-004

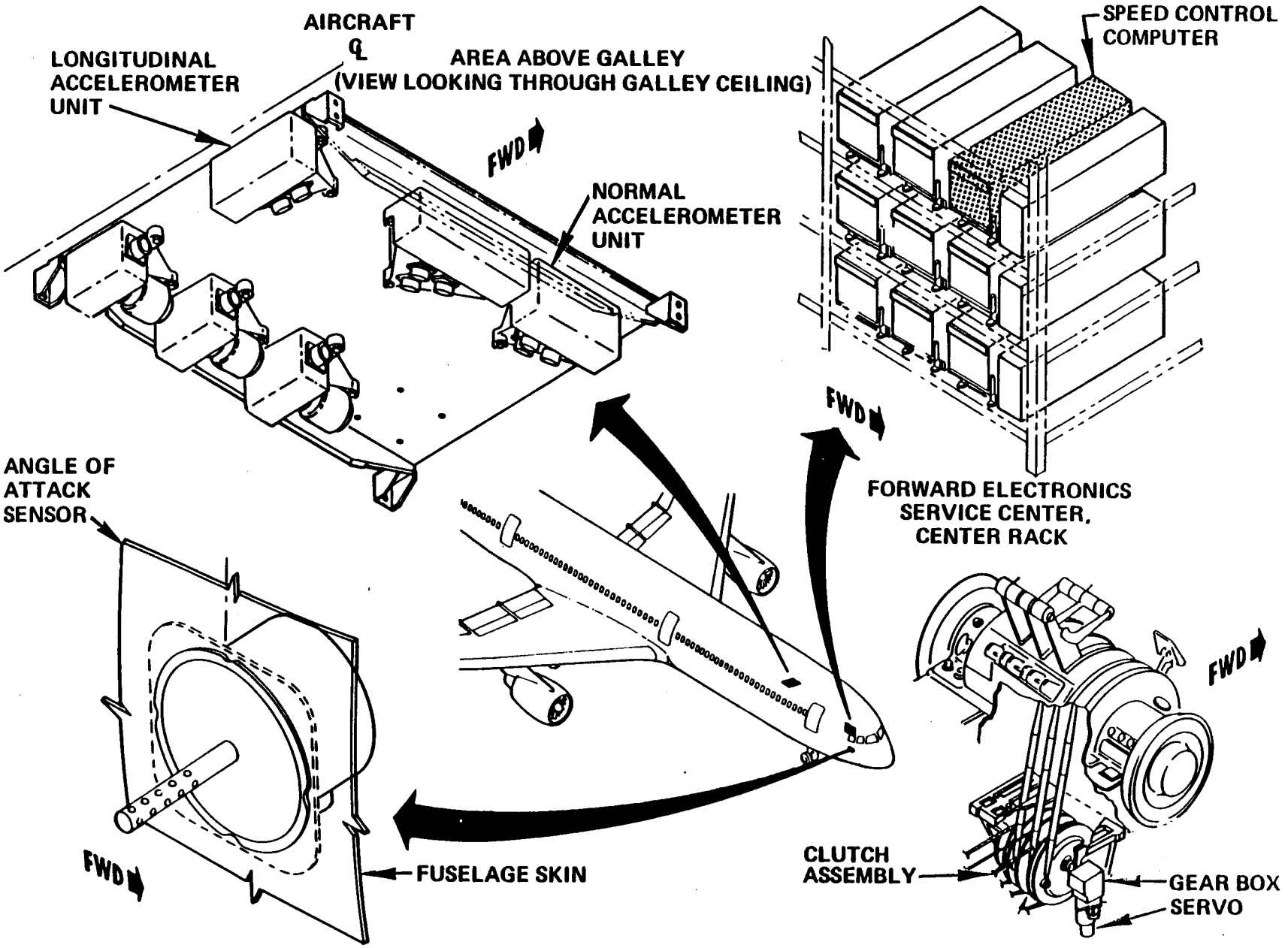
MACH FEEL FUNCTIONAL LOGIC DIAGRAM

FOR TRAINING PURPOSES ONLY

L-1011



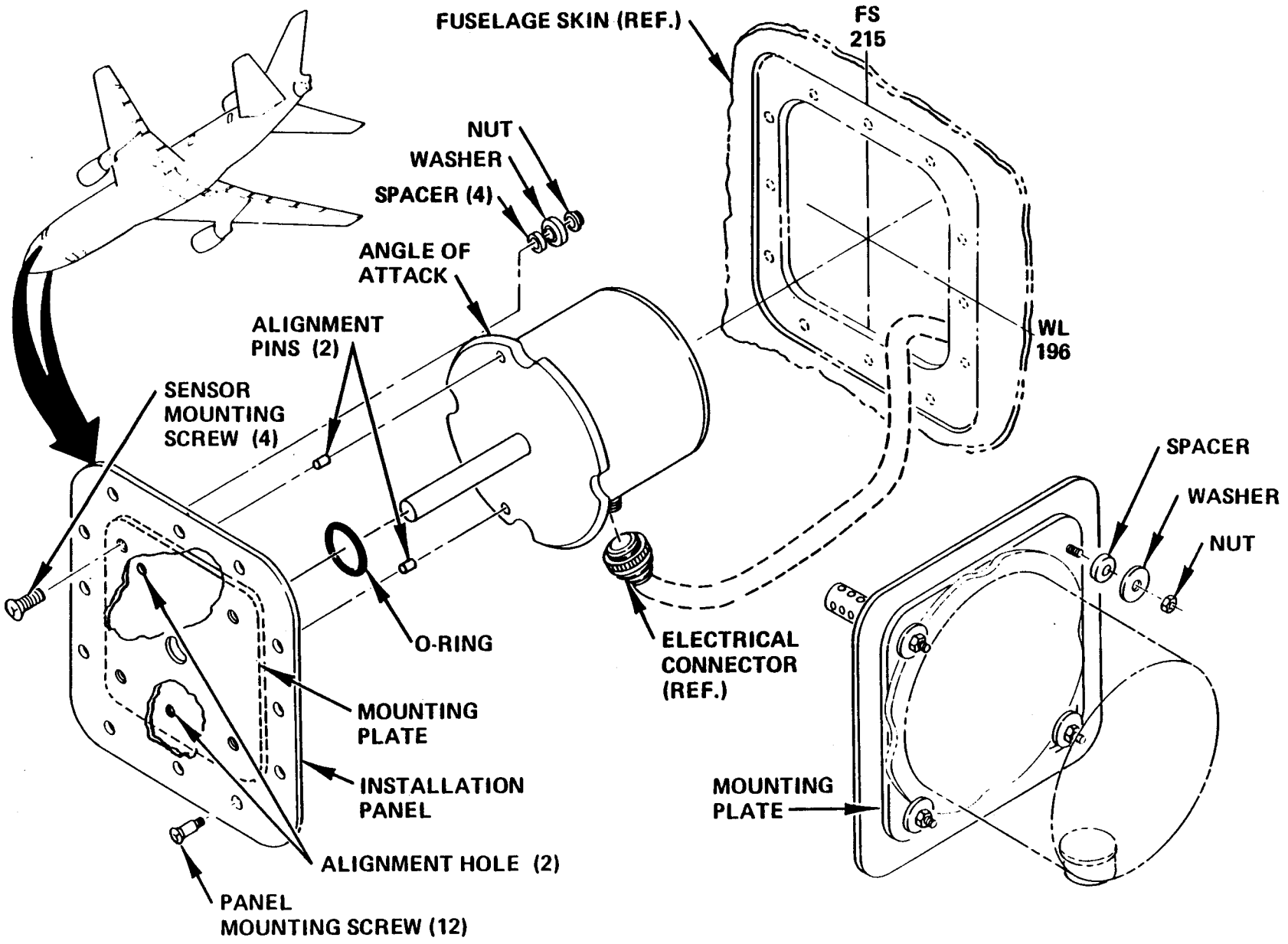
SPEED CONTROL SYSTEM
FLIGHT STATION COMPONENT LOCATIONS



T-22-31-0102-002

SPEED CONTROL SYSTEM COMPONENT LOCATIONS

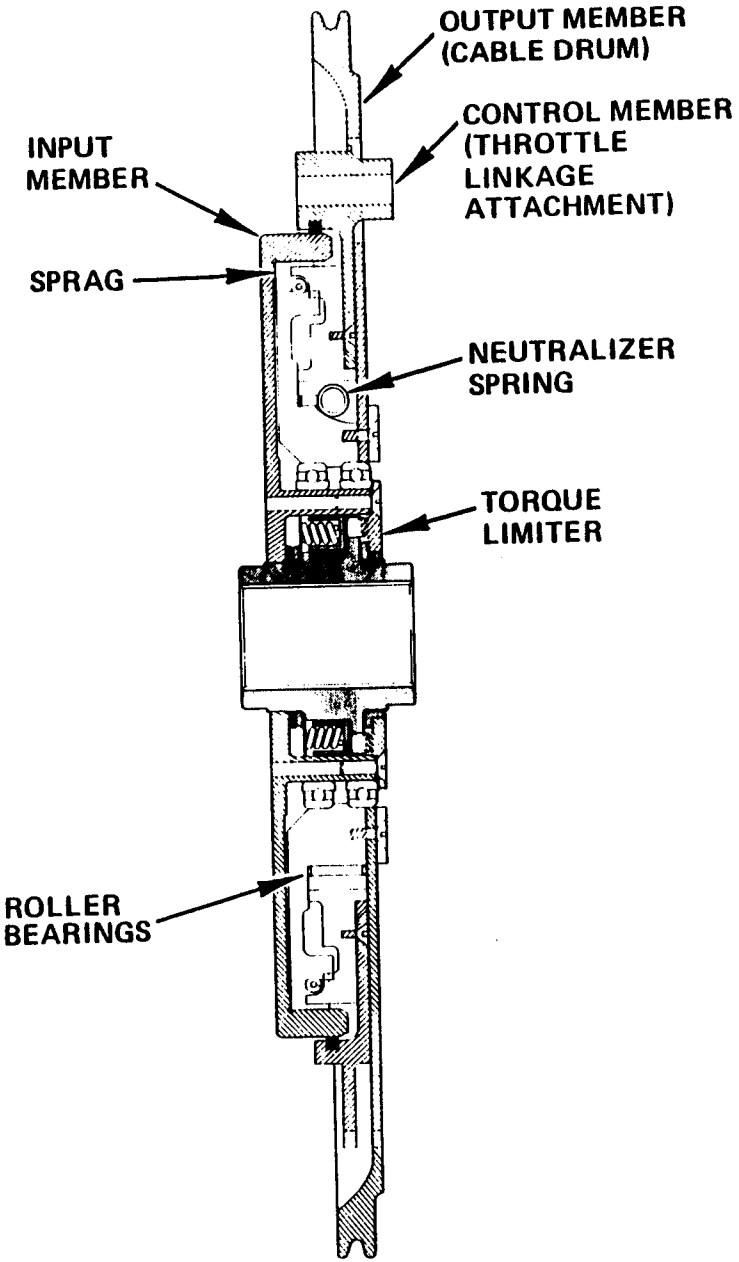
L-1011
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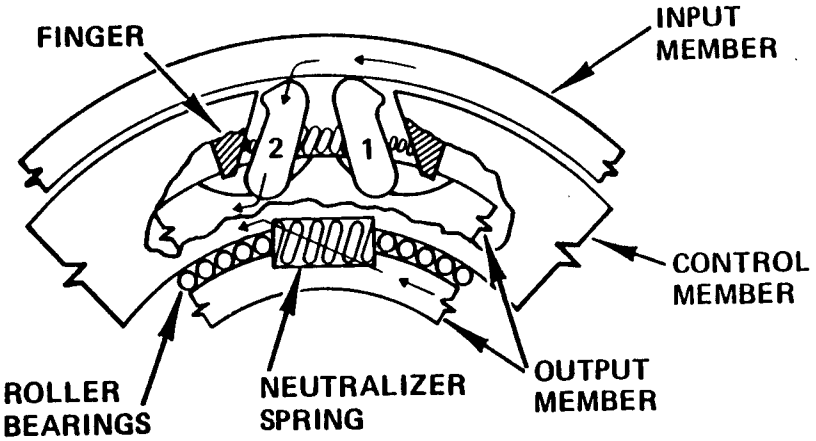
T-22-31-0001-008

ANGLE OF ATTACK SENSOR INSTALLATION

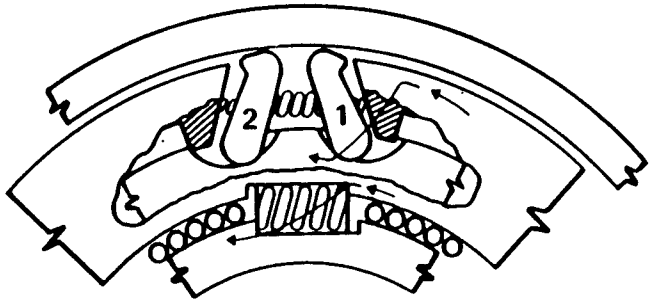
L-1011



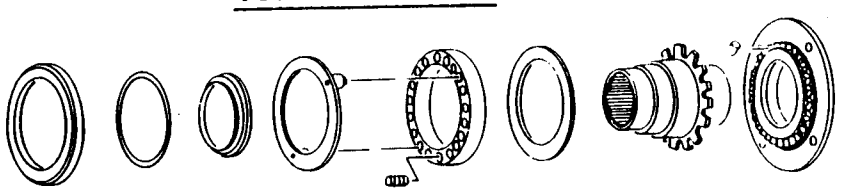
AUTOTHROTTLE DRIVING



THROTTLE LEVER DRIVING



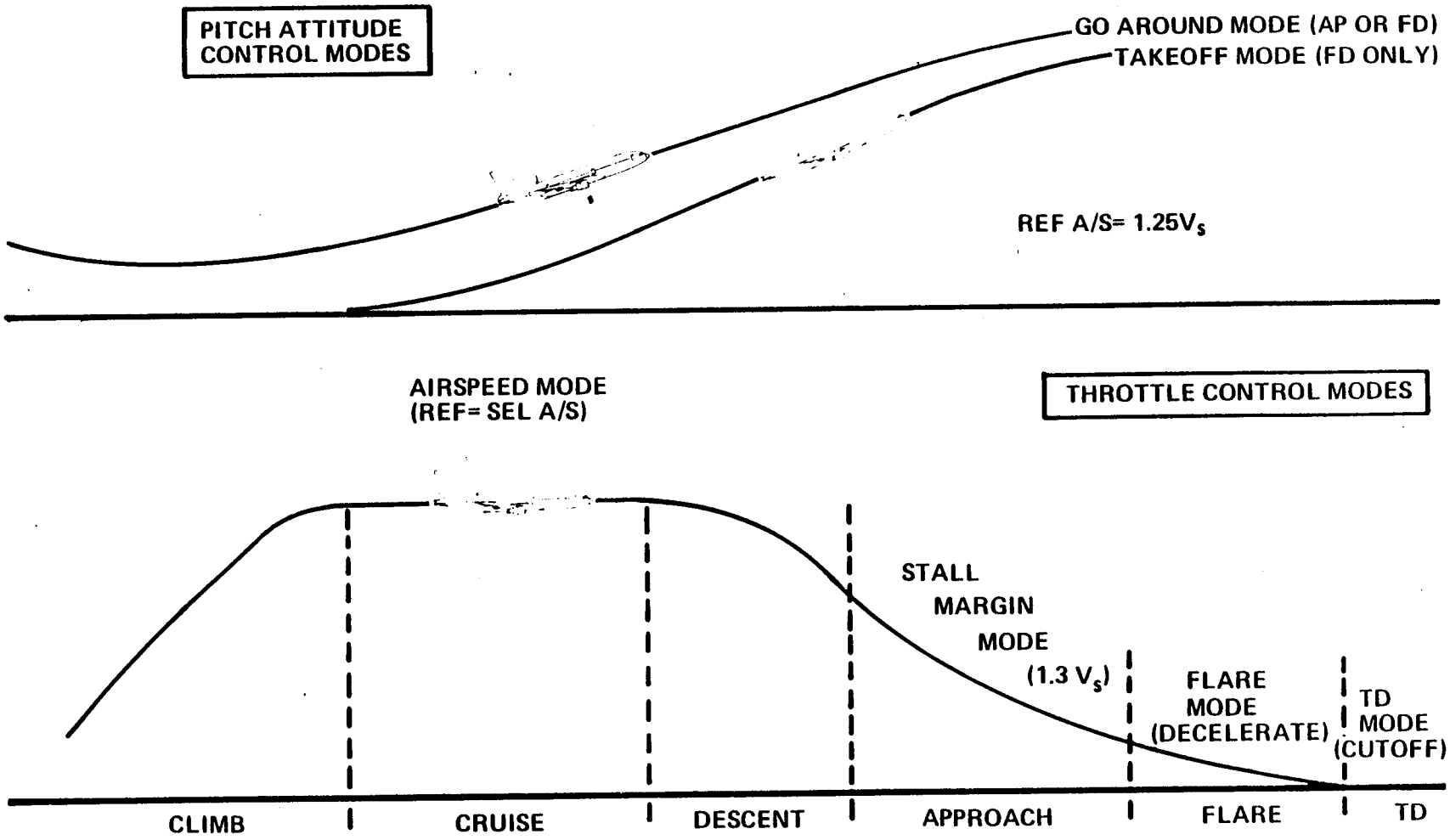
TORQUE LIMITER



AUTO THROTTLE CLUTCH

T-22-31-0002-036

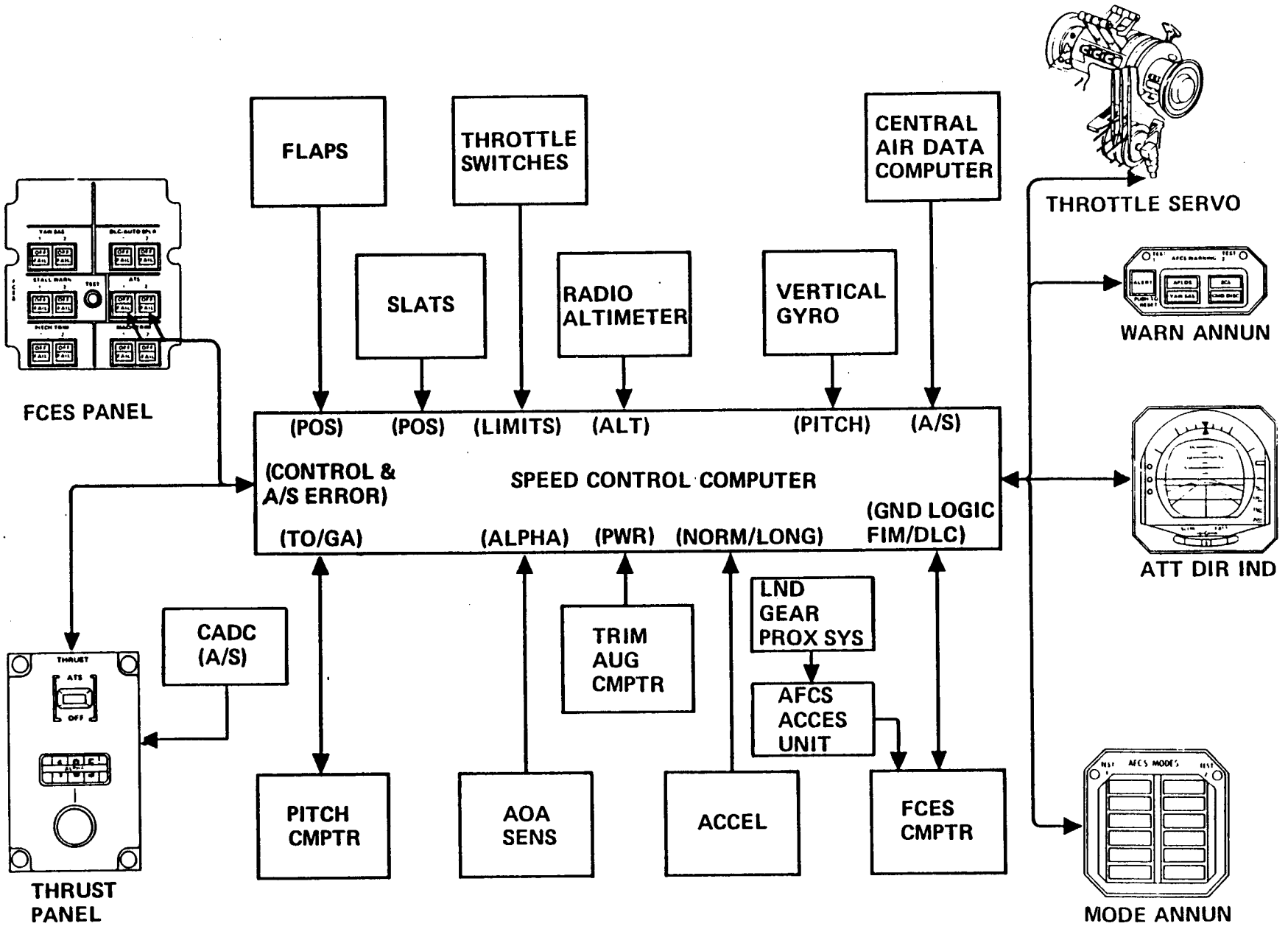
L-1011
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T-22-31-0001-044

SPEED CONTROL SYSTEM MODES

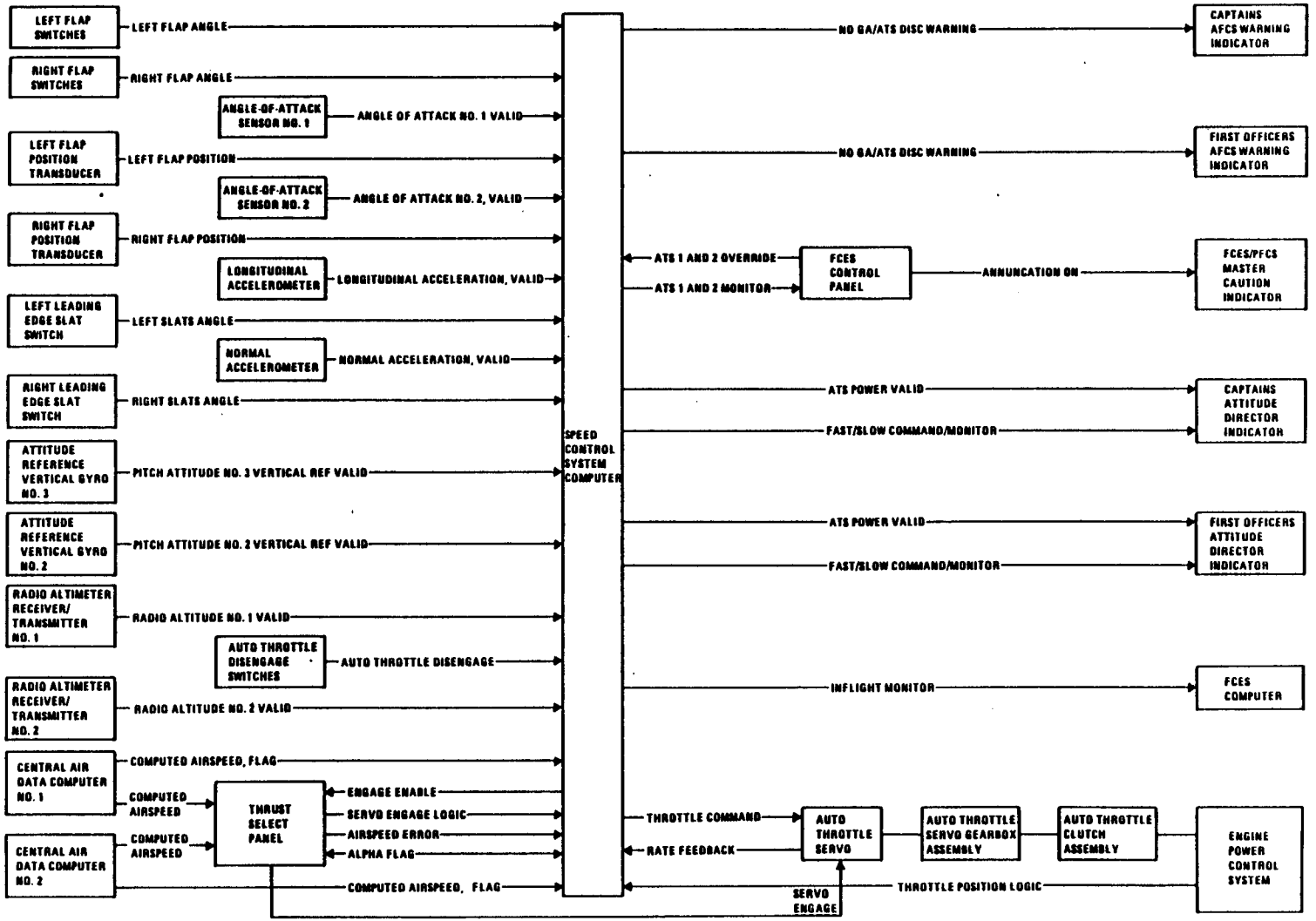
L-1011
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SPEED CONTROL SYSTEM BLOCK DIAGRAM

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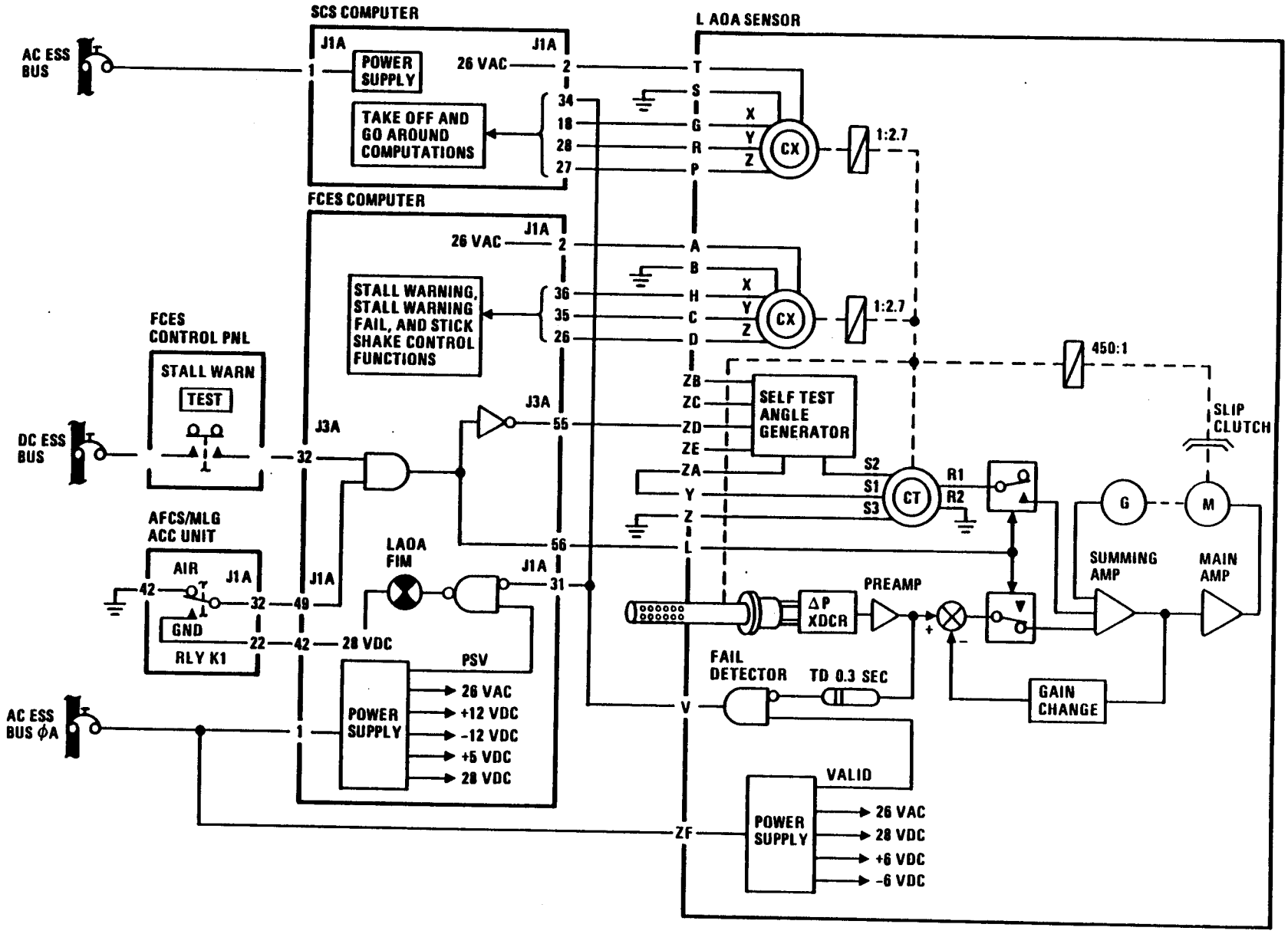


T-22-31-0001-040

SPEED CONTROL SYSTEM INTERFACE

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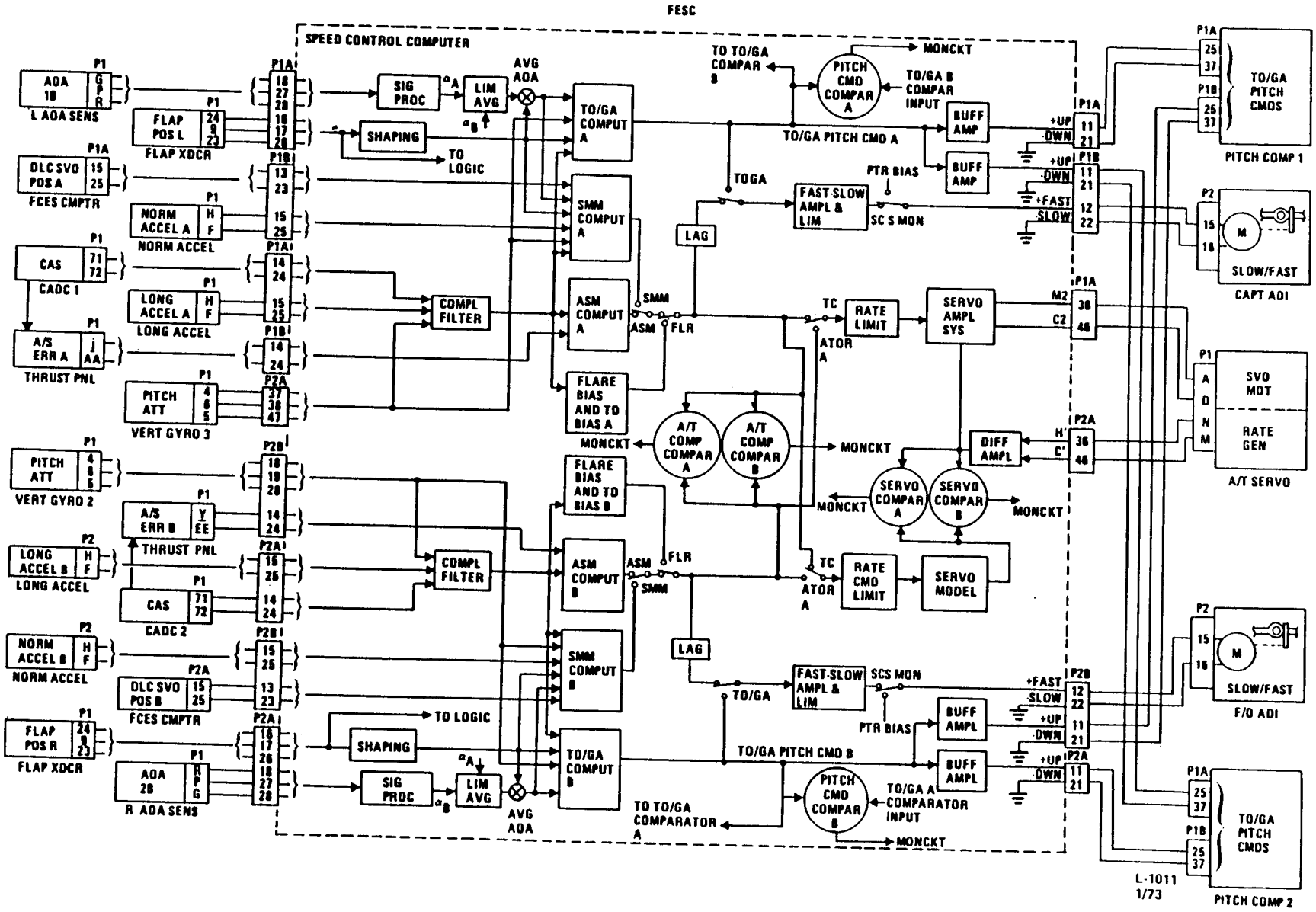
T-22-31-0001-040



T-22-31-0003-007

AOA SENSOR FUNCTIONAL DIAGRAM

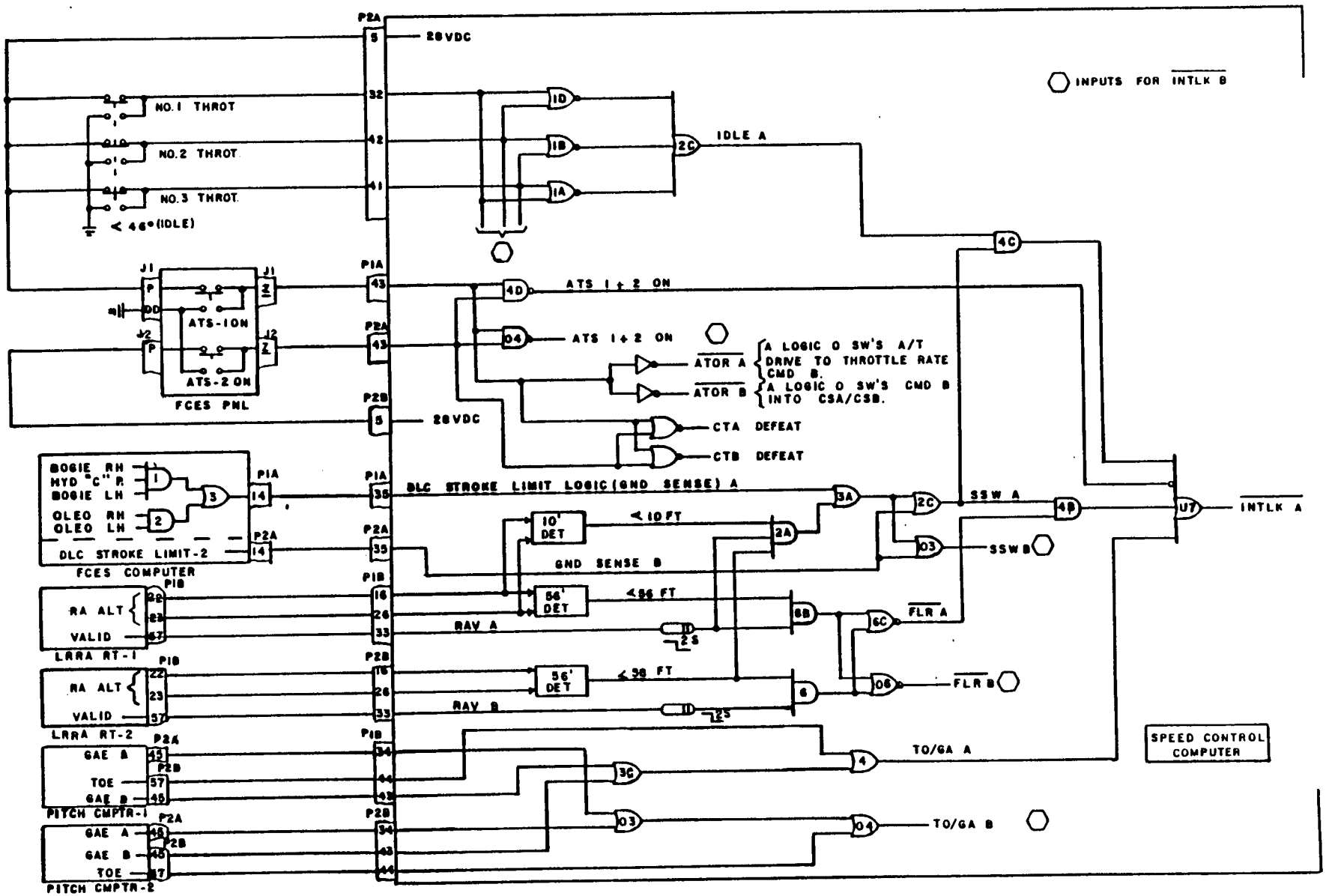
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SPEED CONTROL SYSTEM FUNCTIONAL SCHEMATIC

T-22-31-0003-033

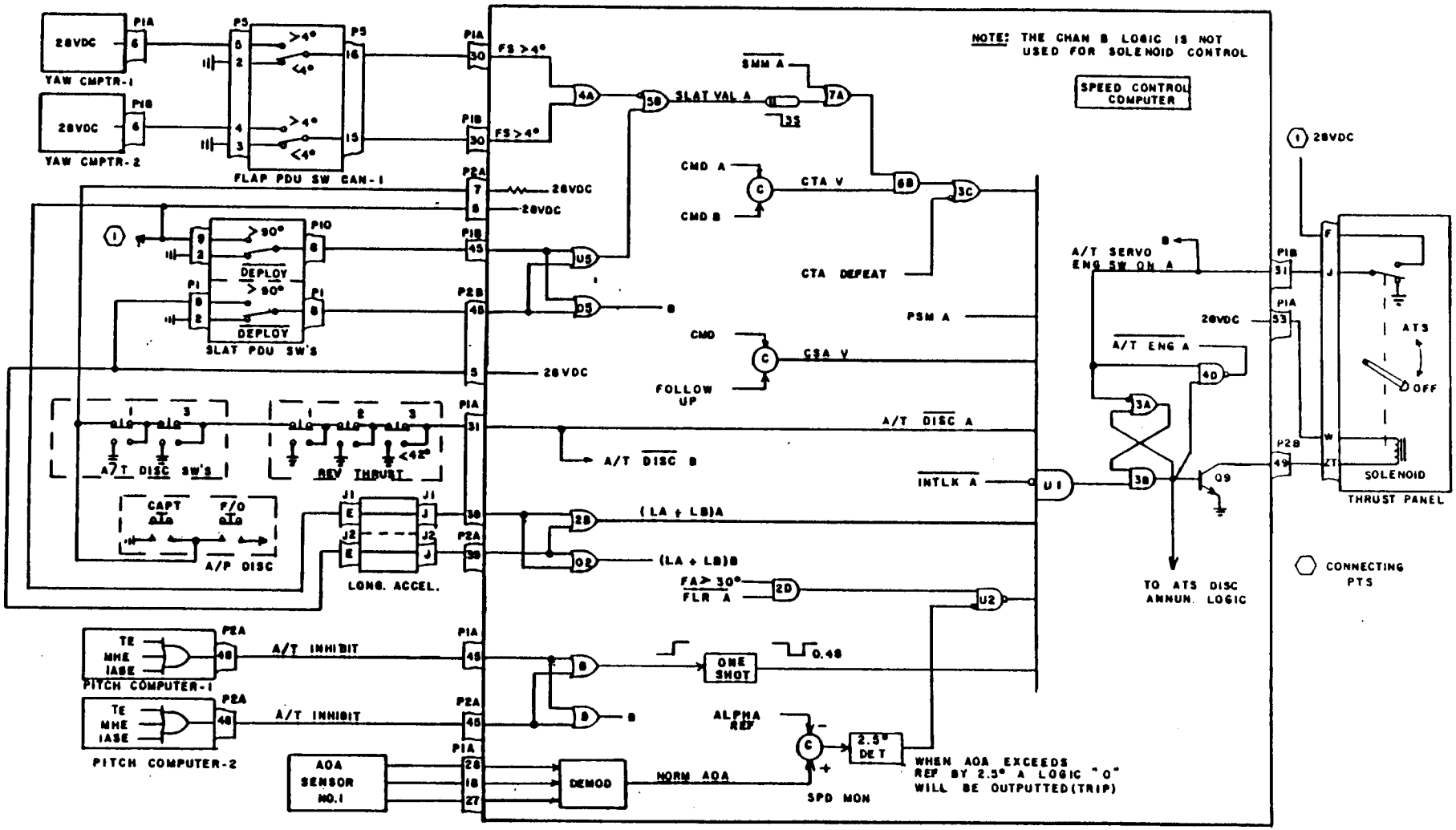
L-1011
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T22-31-031A (TW)

AUTO THROTTLE ENGAGE INTERLOCK SCHEM.

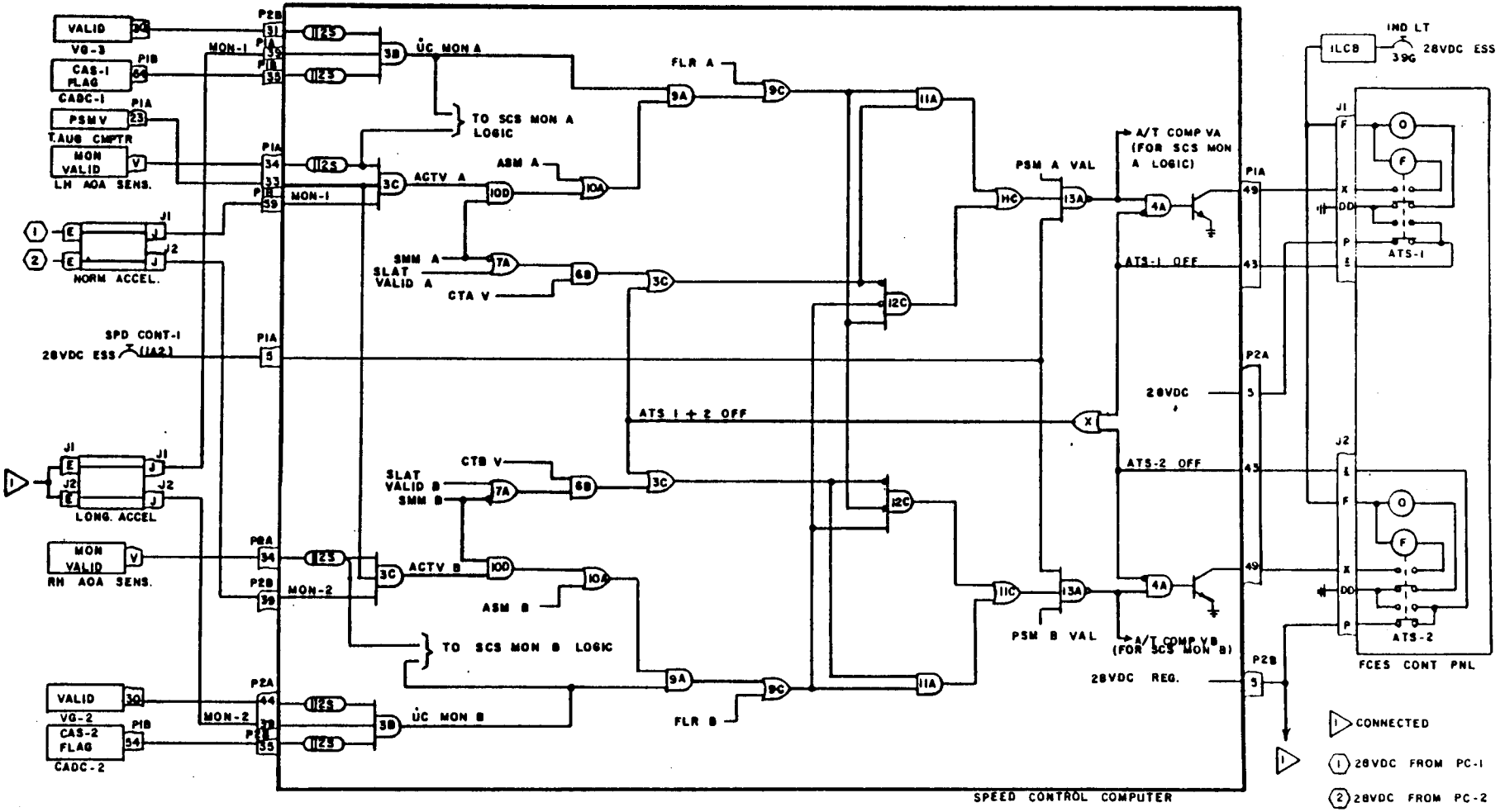
L1011
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T22 - 31 - 031B (TW)

AUTO THROTTLE ENGAGE/DISENGAGE LOGIC

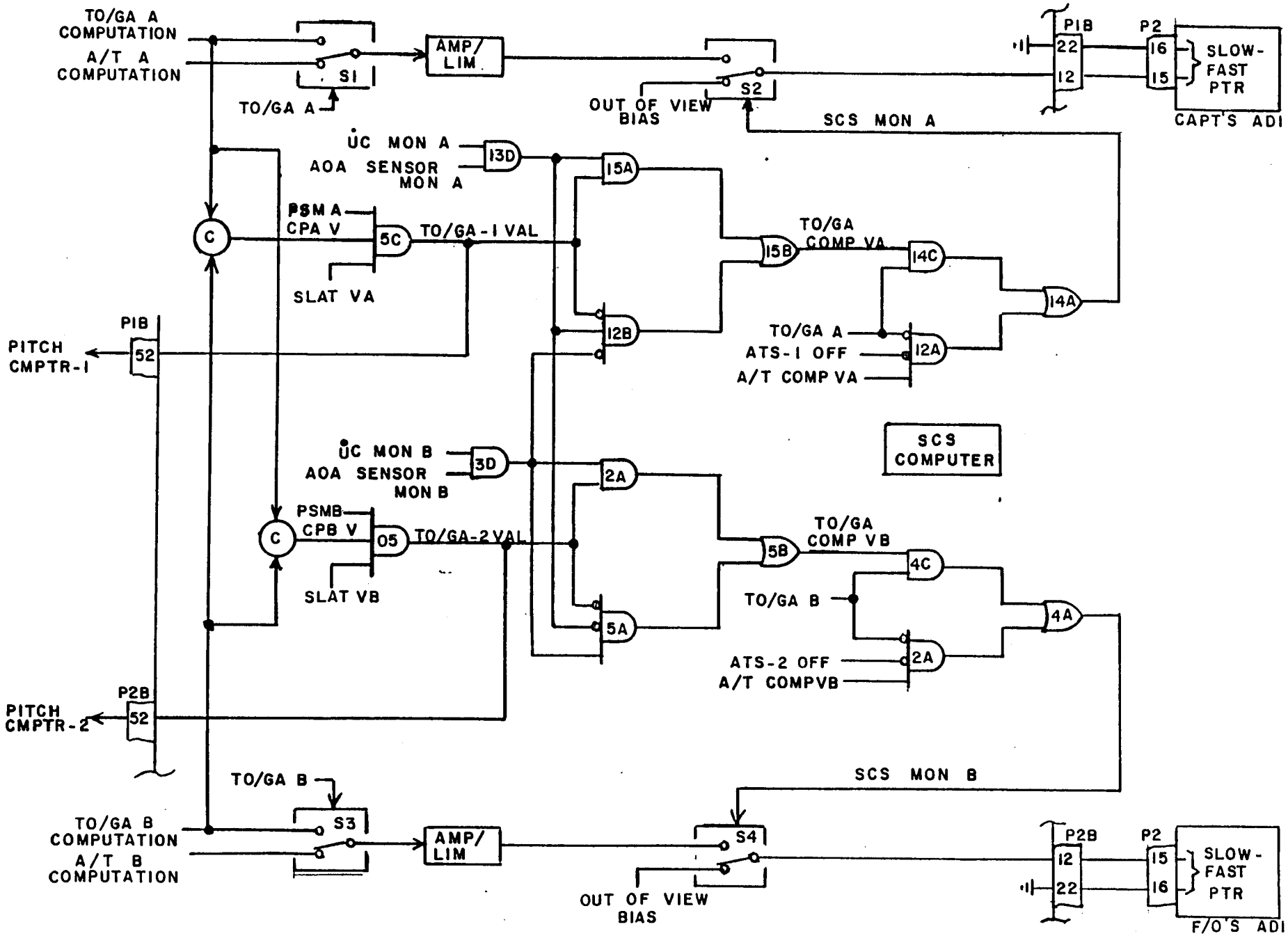
L1011
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SPEED CONTROL SYSTEM FAIL MONITOR LOGIC

T22-31-032TW

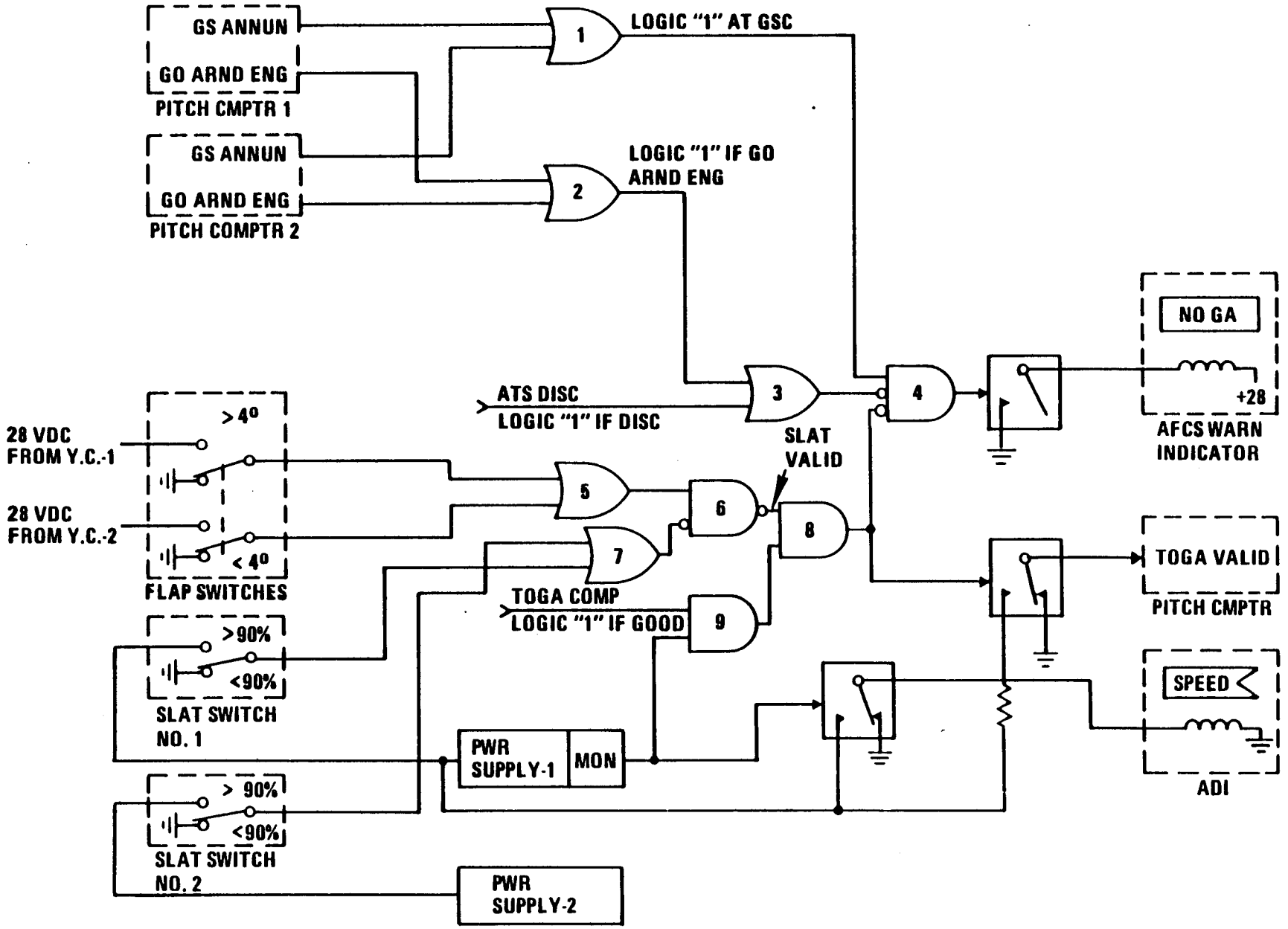
L1011
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T22-31-032A TW

SPEED CONTROL SYSTEM MONITOR LOGIC

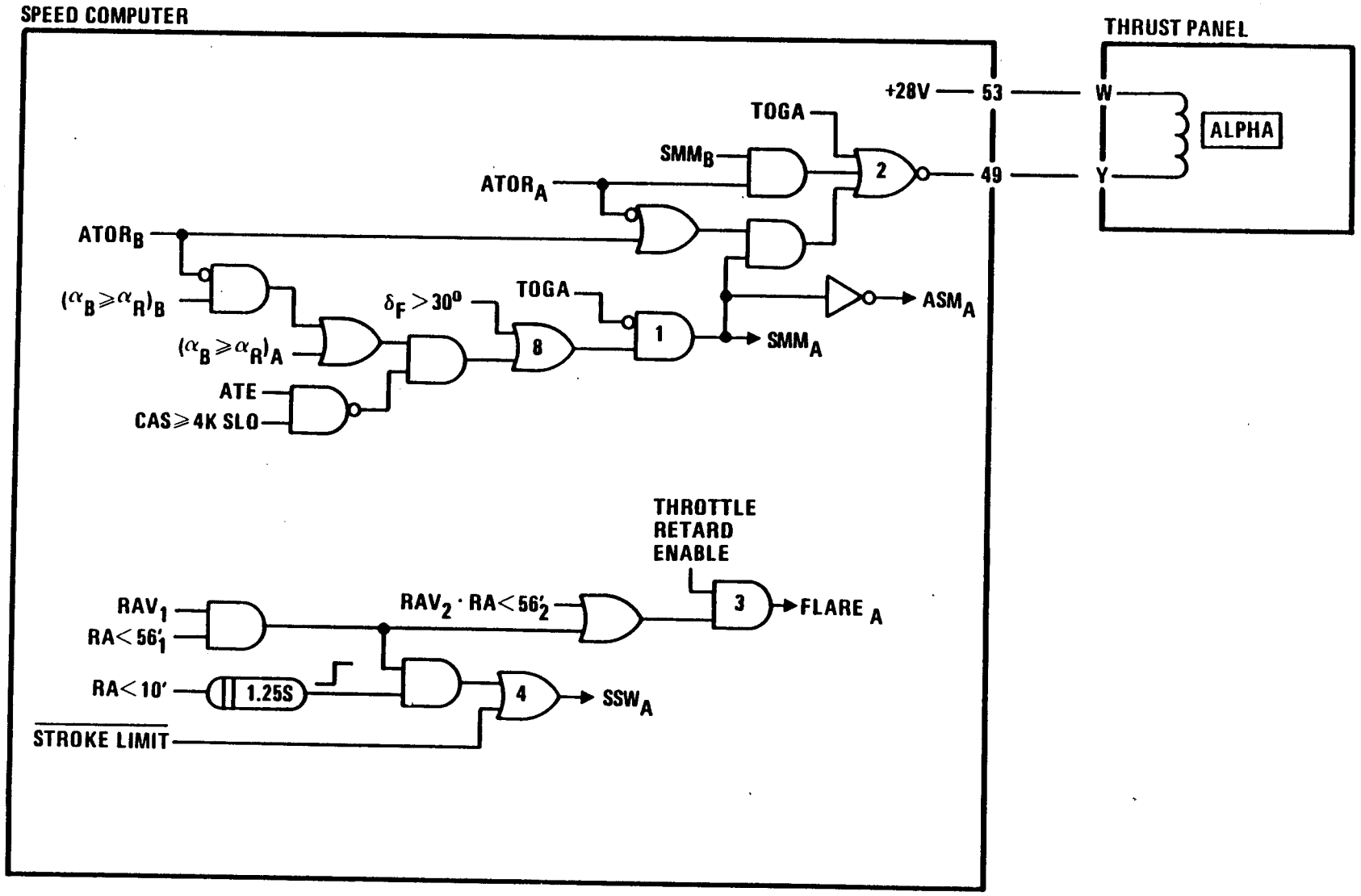
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10-77



T-22-31-0003-010

NO GA AND SPEED FLAG LOGIC DIAGRAM

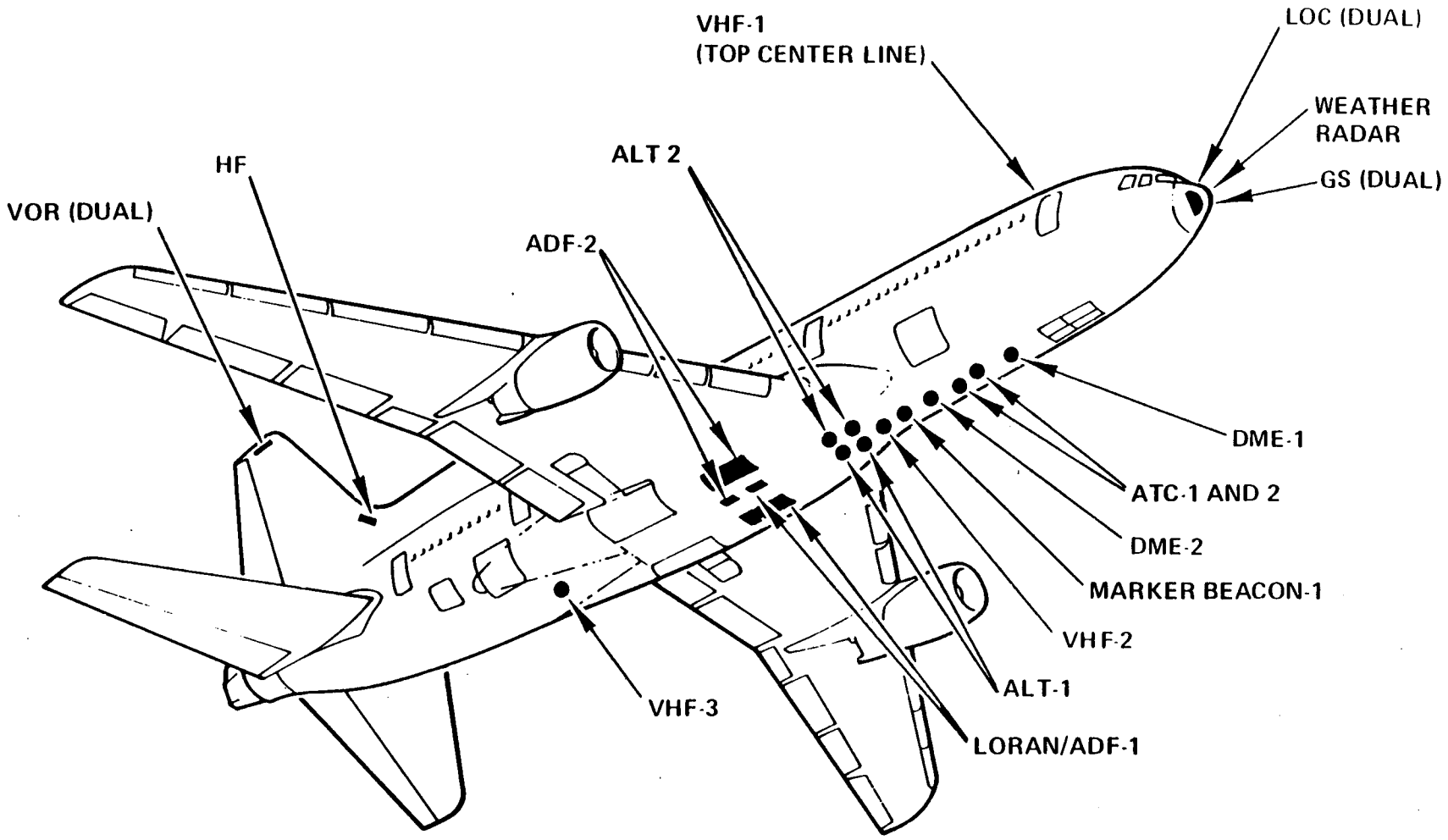
L-1011
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T-22-31-0004-037

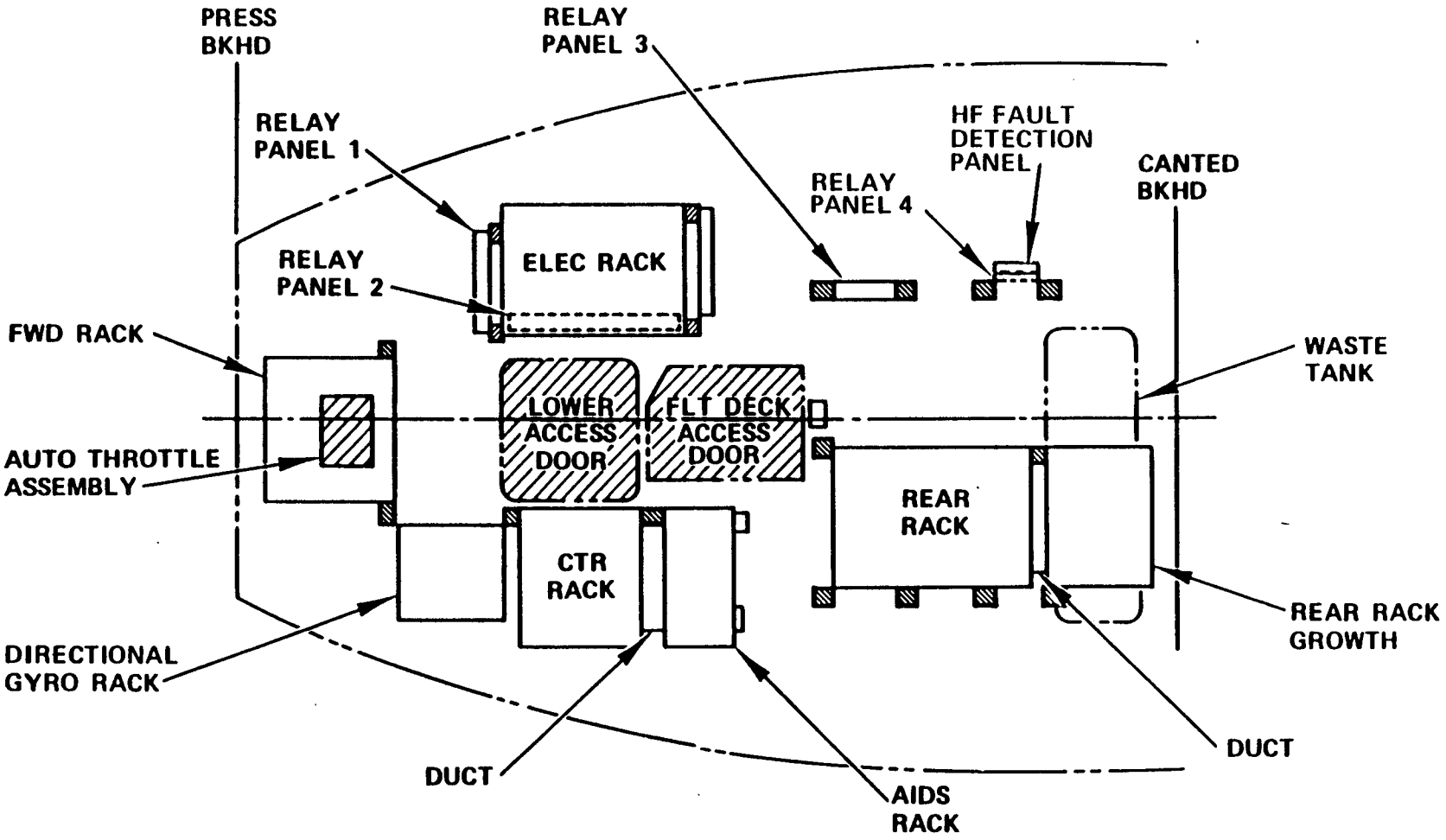
SCS MODE LOGIC

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S-23-00-0101-025

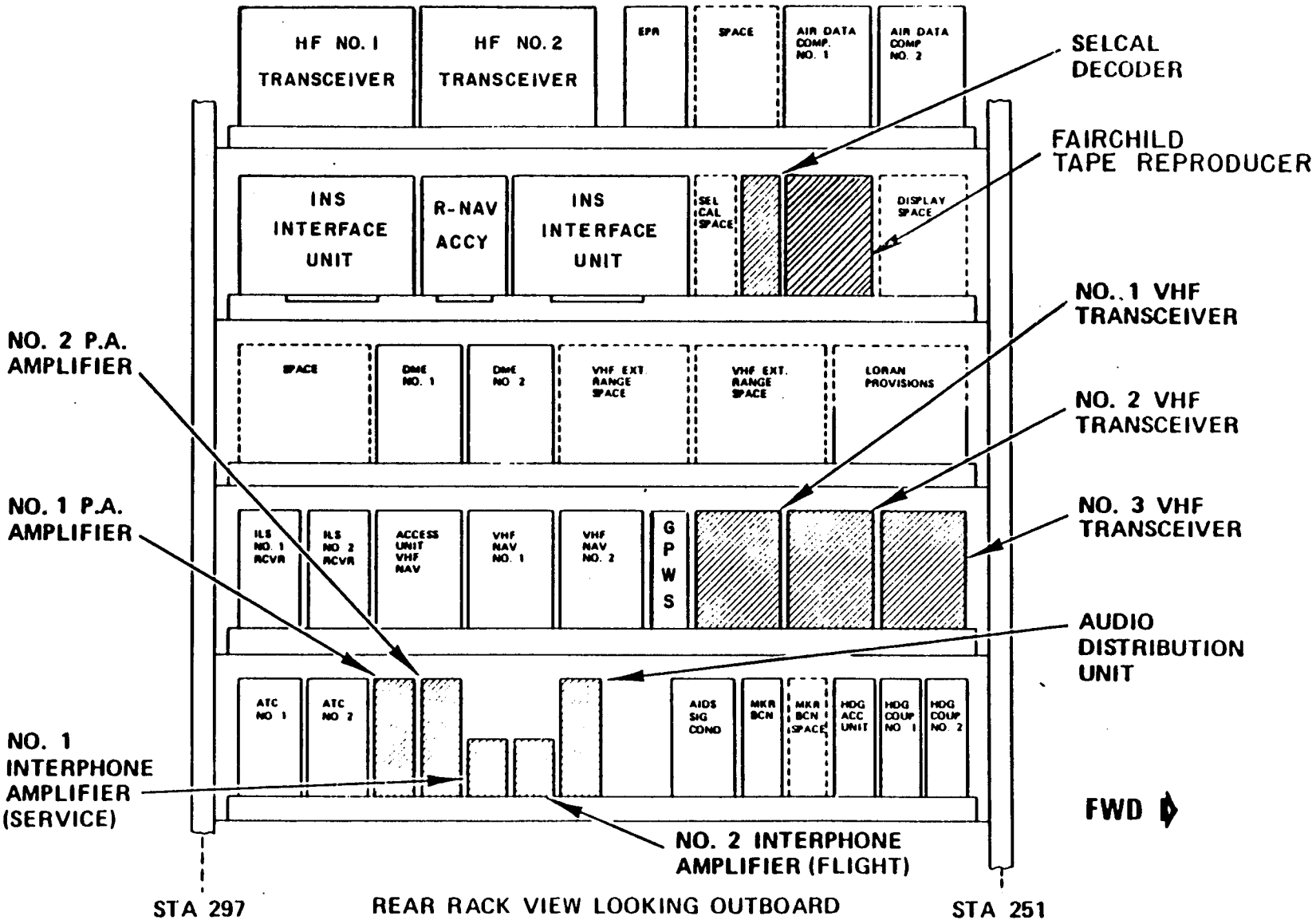
ANTENNA LOCATIONS



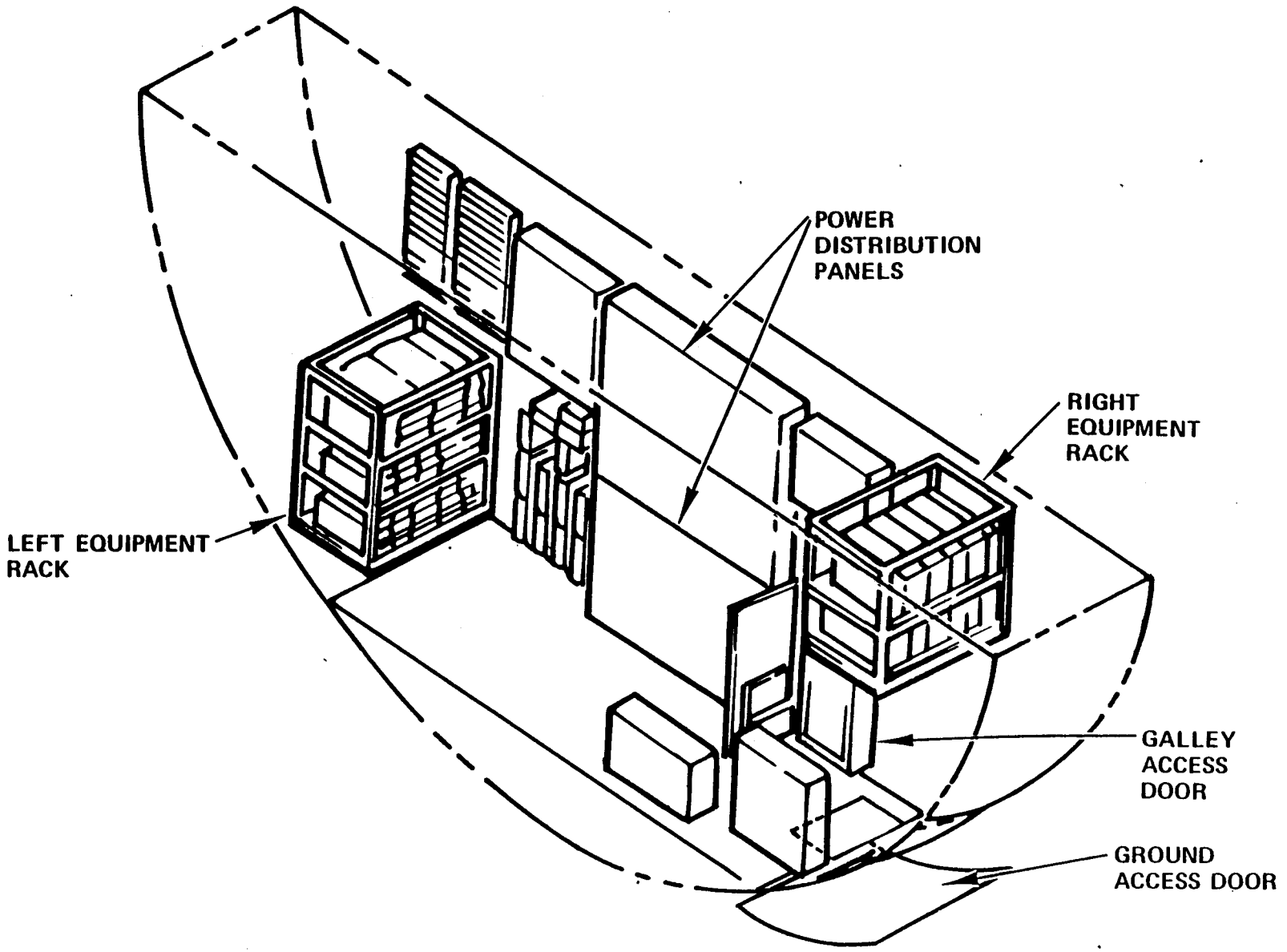
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FORWARD ELECTRONIC SERVICE CENTER

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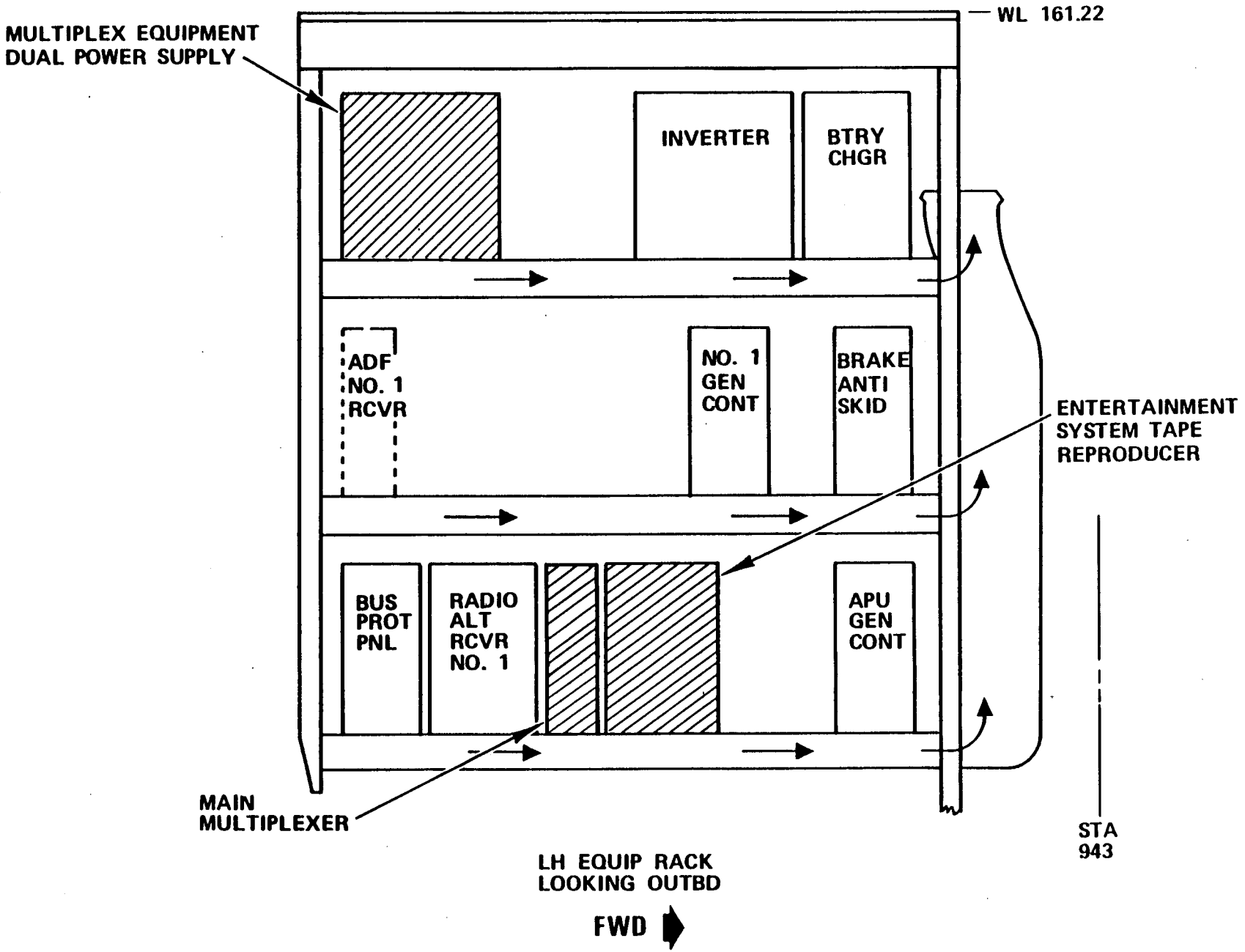


COMMUNICATIONS EQUIPMENT (FESC)



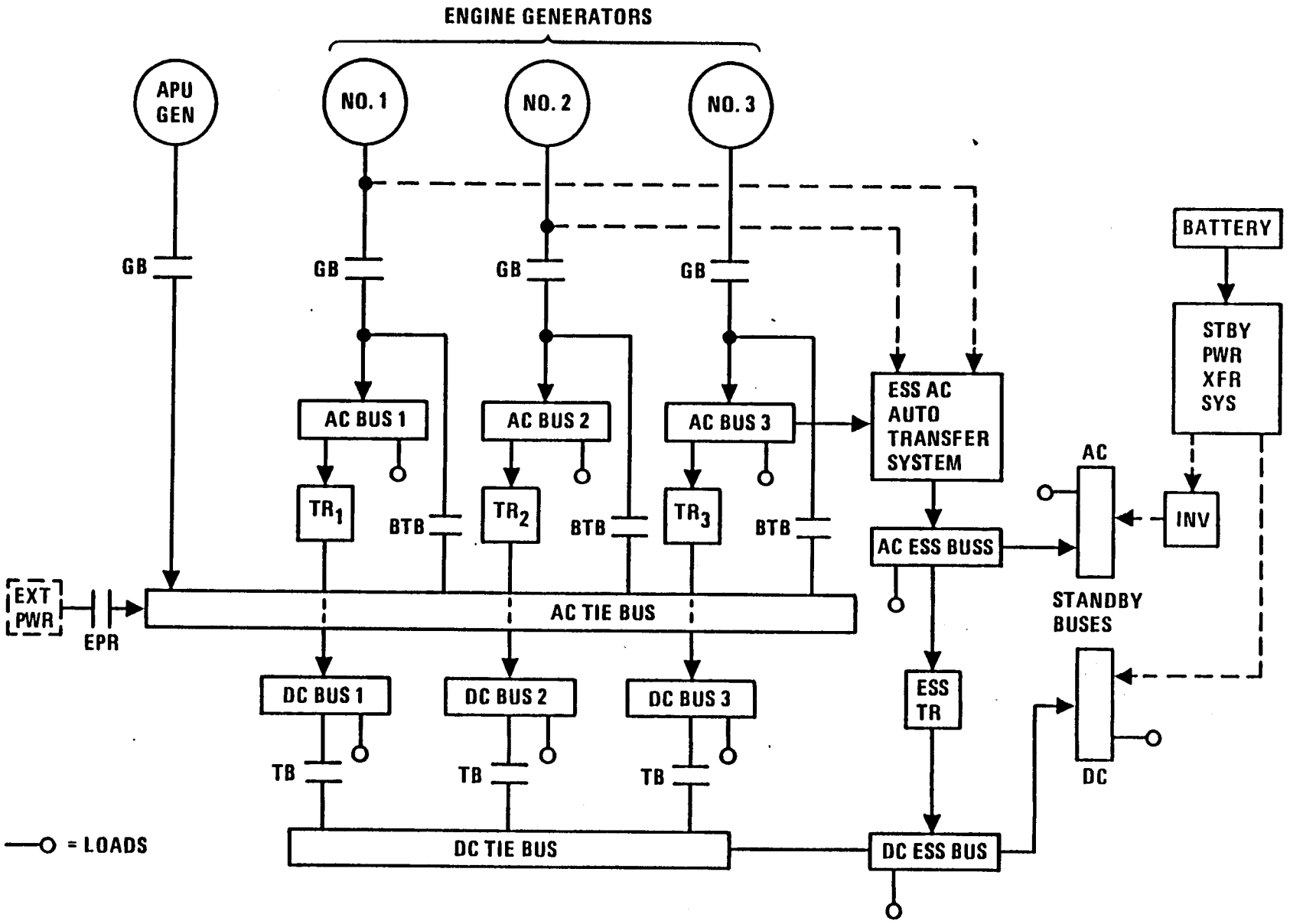
S-23-00-0100-017

MID ELECTRICAL SERVICE CENTER



T-23-00-0001-022

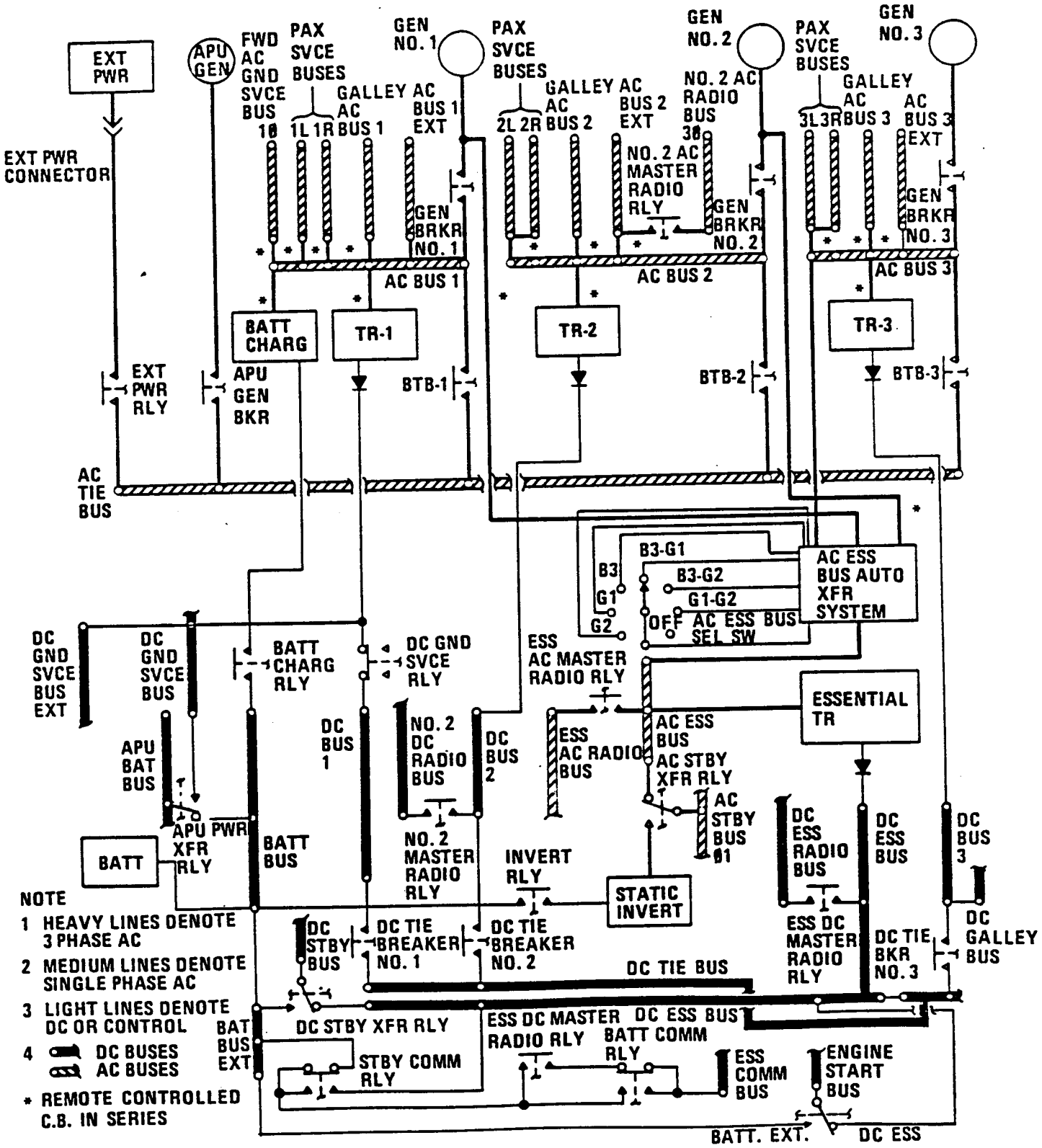
COMMUNICATIONS EQUIPMENT (MESC)



T-24-00-0003-122

L-1011 ELECTRICAL POWER BLOCK DIAGRAM

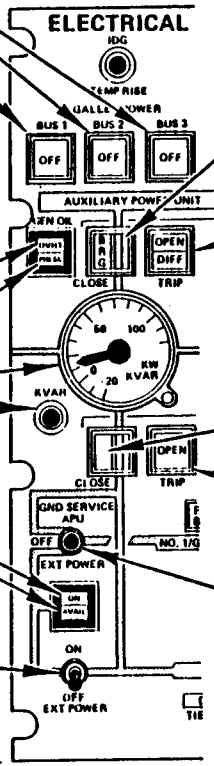
L-1011



ELECTRICAL POWER SYSTEM SINGLE LINE DIAGRAM

T-24-00-0002-006

L-1011
10/72



* FOR PSA READ LOUNGE

* GALLEY POWER SWITCH LIGHTS

CONTROLS PWR TO GALLEY AC BUSES AND OVENS

LATCHED IN - CONNECTS MAIN AC BUSES TO GALLEY BUSES AND OVENS. OFF LT EXTINGUISHED. IF OFF LEGEND ILLUMINATES, THE GALLEY AND OVEN RCCBS IN THAT CHANNEL HAVE TRIPPED.

LATCHED OUT - REMOVES POWER FROM GALLEY BUSES AND OVENS. OFF LIGHT ILLUMINATED

NOTE:

AN EXT PWR OR GEN OVERLOAD CONDITION AUTOMATICALLY REMOVES ALL GALLEY POWER AND AC HYD PUMPS. ALL GALLEY POWER SWITCHLIGHTS MUST BE LATCHED OUT BEFORE BEING LATCHED IN TO RE-POWER GALLEY BUSES.

APU GENERATOR OIL OVERHEAT LIGHT

APU GENERATOR OIL LOW PRESSURE LIGHT

POWER METER AND KVAR SWITCH

NORMAL INDICATION - REAL LOAD (KW)
KVAR SWITCH PRESSED INDICATION - REACTIVE LOAD (KVAR).

EXTERNAL PWR ON LIGHT

EXT PWR IN USE ON AIRCRAFT

EXTERNAL PWR AVAILABLE LIGHT

EXT PWR CONNECTED & MEETS PROPER VOLTAGE, FREQUENCY AND PHASE ROTATION REQUIREMENTS.

EXTERNAL POWER SWITCH

ON – ENERGIZES EXT PWR RELAY
OVERRIDES GND SERVICE SW

OFF – REMOVES EXT POWER FROM TIE BUS.
ALLOWS GENERATOR POWER TO BE APPLIED TO TIE BUS IF AVAILABLE

⚠1 SB 93-24-042 LSI SB 216 1001-1117, 1119
PRODUCTION 1118, 1120 & UP
THE CLOSE SWITCHLIGHT WILL ONLY CLOSE THE BREAKER IF THE GENERATOR BUS IS DEAD OR AUTO-PARALLEL CONDITIONS EXIST.

GENERATOR FIELD RELAY CLOSE SWITCHLIGHT

(MOMENTARY SWITCH)
CLOSES GENERATOR FIELD RELAY
FLOW BAR INDICATES FIELD RELAY CLOSED
BRG LIGHT INDICATES FAILED GENERATOR BEARING

GENERATOR FIELD RELAY TRIP SWITCHLIGHT

(MOMENTARY SW)
OPENS GENERATOR FIELD RELAY AND GENERATOR BREAKER AND LOCKS OUT THE AUTO-CLOSE FUNCTION.
OPEN LIGHT INDICATES FIELD RELAY OPEN
DIFF LIGHT INDICATES DIFFERENTIAL FAULT

GENERATOR BREAKER CLOSE SWITCHLIGHT

(MOMENTARY SW)
CLOSES GEN BREAKER ⚠1
FLOW BAR INDICATES GEN BREAKER CLOSED

GENERATOR BREAKER TRIP SWITCHLIGHT

(MOMENTARY SW)
TRIPS GEN BREAKER AND LOCKS OUT AUTO CLOSE FUNCTION
OPEN LT INDICATES BREAKER OPEN

GROUND SERVICE SELECTOR SWITCH

PERMITS SELECTING APU OR EXT PWR TO ENERGIZE GND SERVICE BUSES.
APU – CONNECTS APU PWR TO GND SERVICE BUSES ONLY.
OFF – GND SERVICE BUSES PWRD NORMALLY
EXT
PWR – CONNECTS EXT PWR TO GND SERVICES BUSES ONLY.
(EXT PWR SW.MUST BE OFF WHEN GND SERVICE SELECTOR SWITCH IS USED).

T-24-00-0001-124

GALLEY, APU GENERATOR & EXT PWR CONTROL

L-1011
4/75

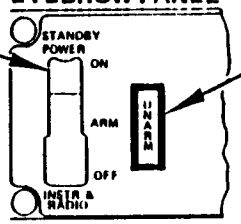
STANDBY POWER SWITCH

OFF – NO ALTERNATE STANDBY AC POWER SOURCE

ARM – BATTERY AS ALTERNATE FOR AC & DC STANDBY PWR IF NORMAL SOURCES FAILED AND BAT SW IS ON

ON – BATT SUPPLIES BOTH AC & DC STANDBY SYSTEMS

EYEBROW PANEL



ILLUMINATES IF EITHER BATTERY SWITCH OR STANDBY POWER SWITCH IS OFF.

BATTERY SWITCH

ON – BAT BUS AUTOMATICALLY POWERS DC STANDBY BUS IF NORMAL PWR SOURCE FAILS (DC ESS BUS)

STATIC INVERTER SUPPLIES AC STANDBY BUS IF AC ESS BUS FAILS AND THE STANDBY POWER SWITCH IS IN THE ARMED POSITION

OFF – AUTO TRANSFER OF SOURCE POWER TO STANDBY BUSES WILL NOT OCCUR

ESS & STANDBY POWER INDICATOR LTS

DC STBY BUS FAILED

AC STBY BUS FAILED

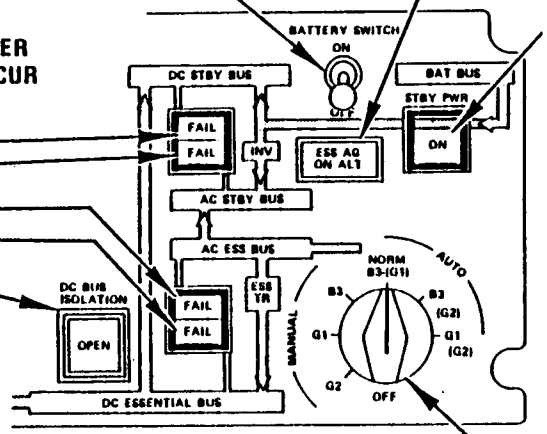
AC ESS BUS FAILED

DC ESS BUS FAILED

DC BUS ISOLATION SWITCHLIGHT

LATCHED OUT – OPEN LIGHT OFF DC BUSES 1, 2 & 3 CONNECTED TO DC TIE BUS.

LATCHED IN – OPEN LIGHT ON DC BUSES 1, 2, 3 OPERATE IN ISOLATION.



FO/SO ELECT PANEL

ESSENTIAL AC BUS ON ALTERNATE LIGHT

ILLUMINATED WHEN THE PRIMARY SOURCE OF AC ESSENTIAL POWER HAS FAILED AND THE ALTERNATE AC ESSENTIAL POWER SOURCE IS BEING USED

STANDBY POWER INDICATOR LIGHT

NO LIGHT – INDICATES STBY BUSES (AC&DC) POWERED NORMALLY

ON LIGHT – INDICATES THAT THE DC OR AC NORMAL POWER SOURCES HAVE FAILED AND THE BATTERY IS SUPPLYING EITHER OR BOTH STANDBY SYSTEMS.

FLOW BAR – INDICATES THAT THE BATTERY IS SUPPLYING BOTH AC AND DC STANDBY SYSTEMS (STANDBY POWER SWITCH ON)

AC ESSENTIAL BUS POWER SELECTOR SWITCH

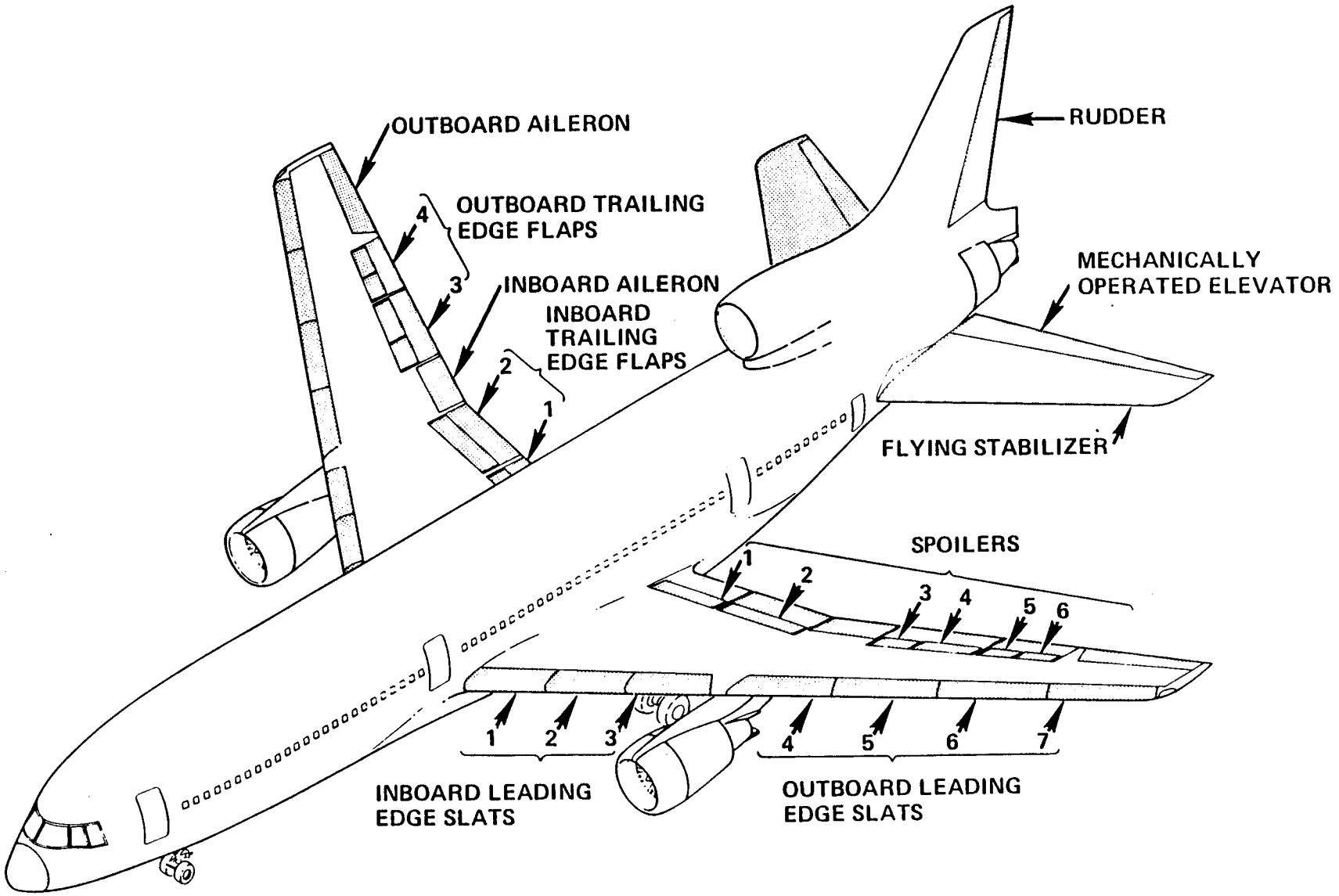
OFF – DE-ENERGIZES AC ESS BUS

MANUAL – GEN 1, GEN 2, OR AC BUS 3 PROVIDE A SINGLE POWER SOURCE FOR THE AC ESS BUS

AUTO – PROVIDES PRIMARY AND ALTERNATE POWER SOURCES FOR AC ESS BUS

ESS & STANDBY POWER CONTROL & INDICATION

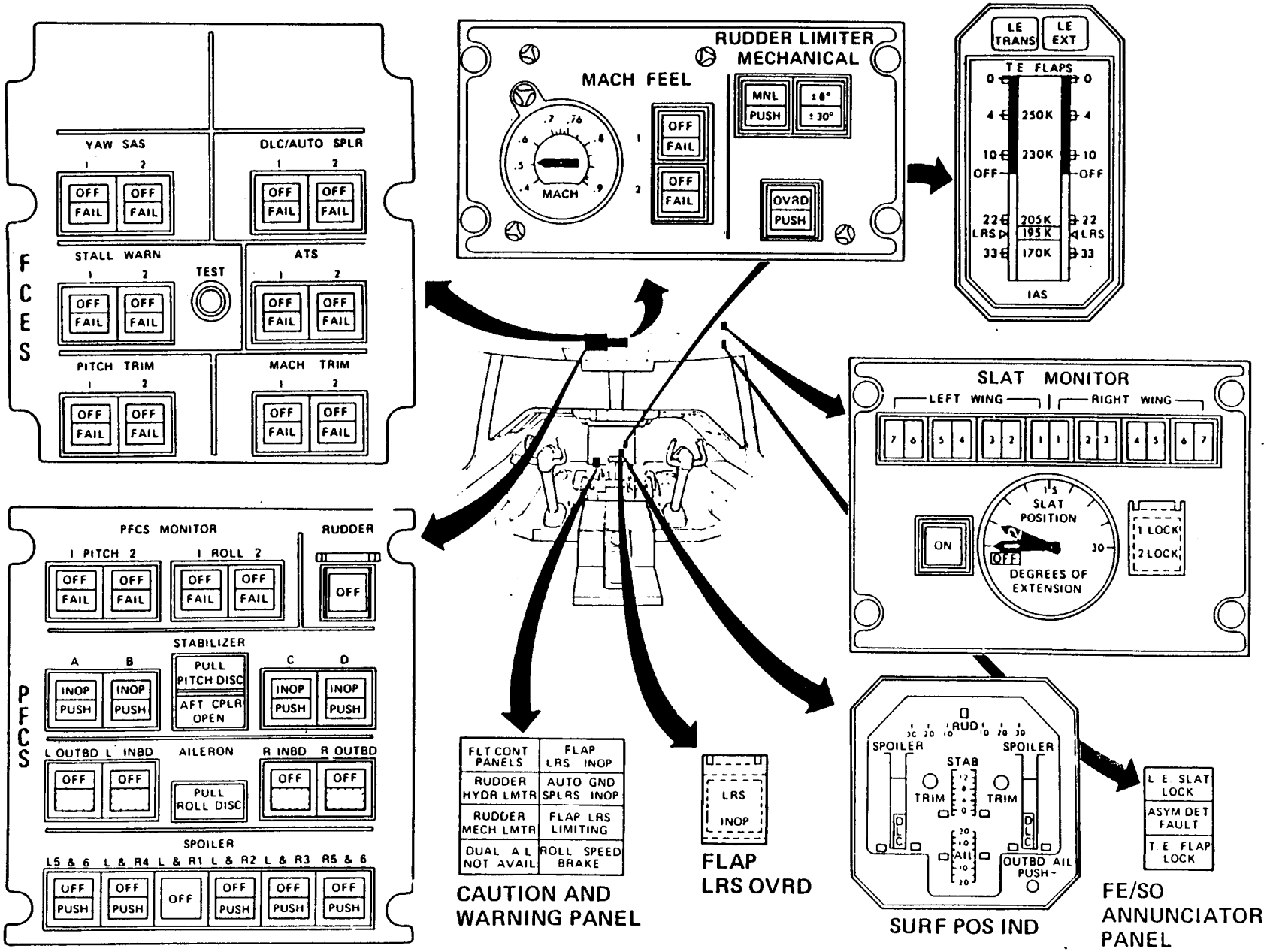
"A" CENTRAL AIR DATA COMPUTER FAILURE	ACADCF
ACTUATOR	ACT
"A" FLAP FAILURE	A FLAP F
AUGMENT	AGMT
AUTO GROUND SPEED BRAKE	AGSB
AILERON	AIL
"A" POSITION FAILURE	A POS F
ASYMMETRY	ASYM
AIR TURBINE MOTOR	ATM
ATTITUDE	ATT
"B" FLAP FAILURE	B FLAP F
"B" POSITION FAILURE	B POS F
"B" POWER SUPPLY FAILURE	B PSF
CENTRAL AIR DATA COMPUTER	CADC
COMMAND	CMD
COMPUTER	COMP
COUPLE	CPL
COUPLER	CPLR
CLOCKWISE	CW
DECISION	DEC
DETECTOR	DET
DIRECT LIFT CONTROL	DLC
CONTROL SELECTORS	CONT SEL
ELECTRO HYDRAULIC SERVO VALVE	EHV
ENGAGE	ENG
FLIGHT CONTROL AUXILIARY UNIT	FCAU
FLIGHT CONTROL ELECTRONIC SYSTEM	FCES
LOAD RELIEVING SYSTEM	LRS
LINIAR VARIABLE DISPLACEMENT TRANSDUCER	LVDT
MONITOR	MON
MIXER	MXR
OUTSIDE MOLD LINE	OML
POWER DRIVE UNIT	PDU
PRIMARY FLIGHT CONTROL SYSTEM	PFCS
RAM AIR TURBINE	RAT
RUDDER LIMITER	RDL
REJECTED TAKE OFF	REJ TO
STABILITY AUGMENTATION SYSTEM	SAS
SPEED BRAKES	SB
SERVO	SERV
SHUTOFF VALVE	SOV
SURFACE POSITION INDICATOR	SPI
STABILIZER	STAB
TAKEOFF/GO AROUND	TO GA
UNCOUPLE	UNCPL



T-27-00-0101-005

FLIGHT CONTROLS SURFACE ARRANGEMENT

L-1011
11/71



T-27-00-0004-037

FLIGHT STATION FLIGHT CONTROL PANELS

MOMENTARY TEST TOGGLE SWITCH

- PERMITS COMMANDING SELECTORS, MIXERS AND SPOILERS NO. 1 TO DESIRED AIRCRAFT CONFIGURATION STATE (EITHER "FLAPS UP" OR "FLAPS DOWN").

FAULT ANNUNCIATORS

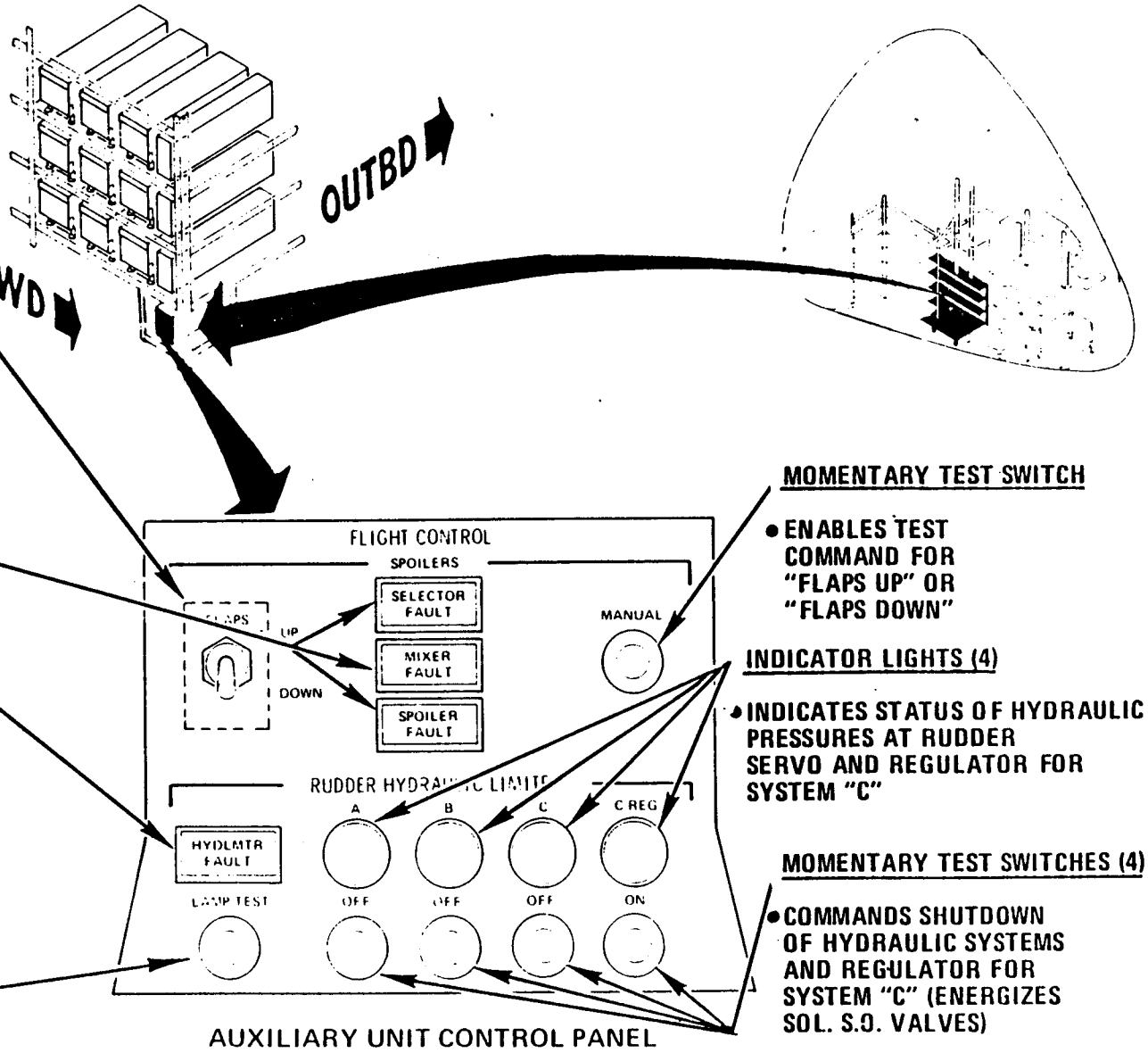
- INDICATES SELECTOR, MIXER AND SPOILER NO. 1 FAULTS FOR STATE CONDITION EXISTING
- FAULTS CAN BE SIMULATED BY MOMENTARY TEST SWITCHES

FAULT ANNUNCIATOR

- INDICATES SYSTEM FAULTS FOR HYDRAULIC LIMITING FOR TEST STATE CONDITION EXISTING
- FAULTS CAN BE SIMULATED BY MOMENTARY TEST SWITCHES

MOMENTARY LAMP TEST SWITCH

- TESTS ALL INDICATOR LIGHTS AND PANEL ANNUNCIATOR LAMPS



MOMENTARY TEST SWITCH

- ENABLES TEST COMMAND FOR "FLAPS UP" OR "FLAPS DOWN"

INDICATOR LIGHTS (4)

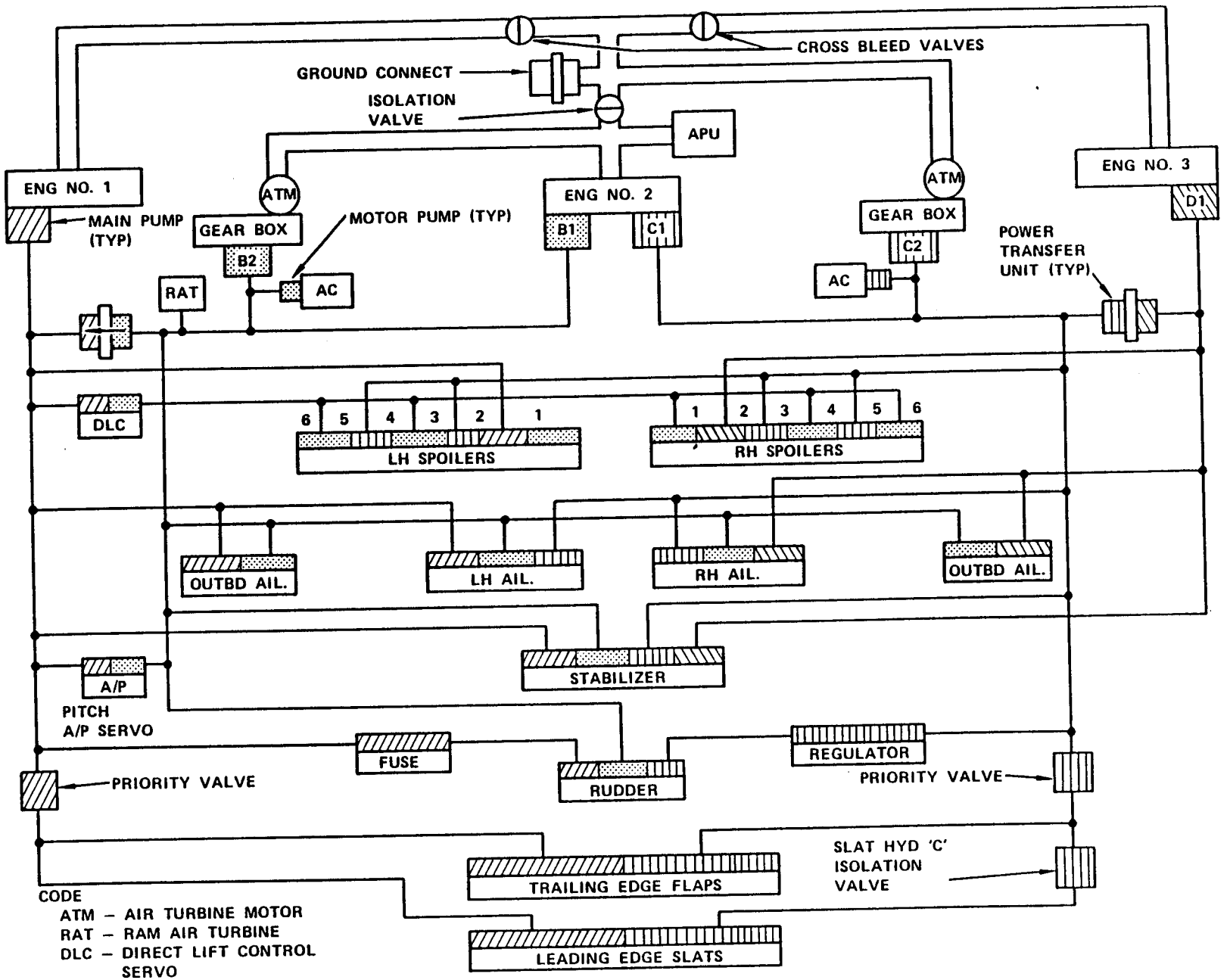
- INDICATES STATUS OF HYDRAULIC PRESSURES AT RUDDER SERVO AND REGULATOR FOR SYSTEM "C"

MOMENTARY TEST SWITCHES (4)

- COMMANDS SHUTDOWN OF HYDRAULIC SYSTEMS AND REGULATOR FOR SYSTEM "C" (ENERGIZES SOL. S.D. VALVES)

T-27-61-0101-024

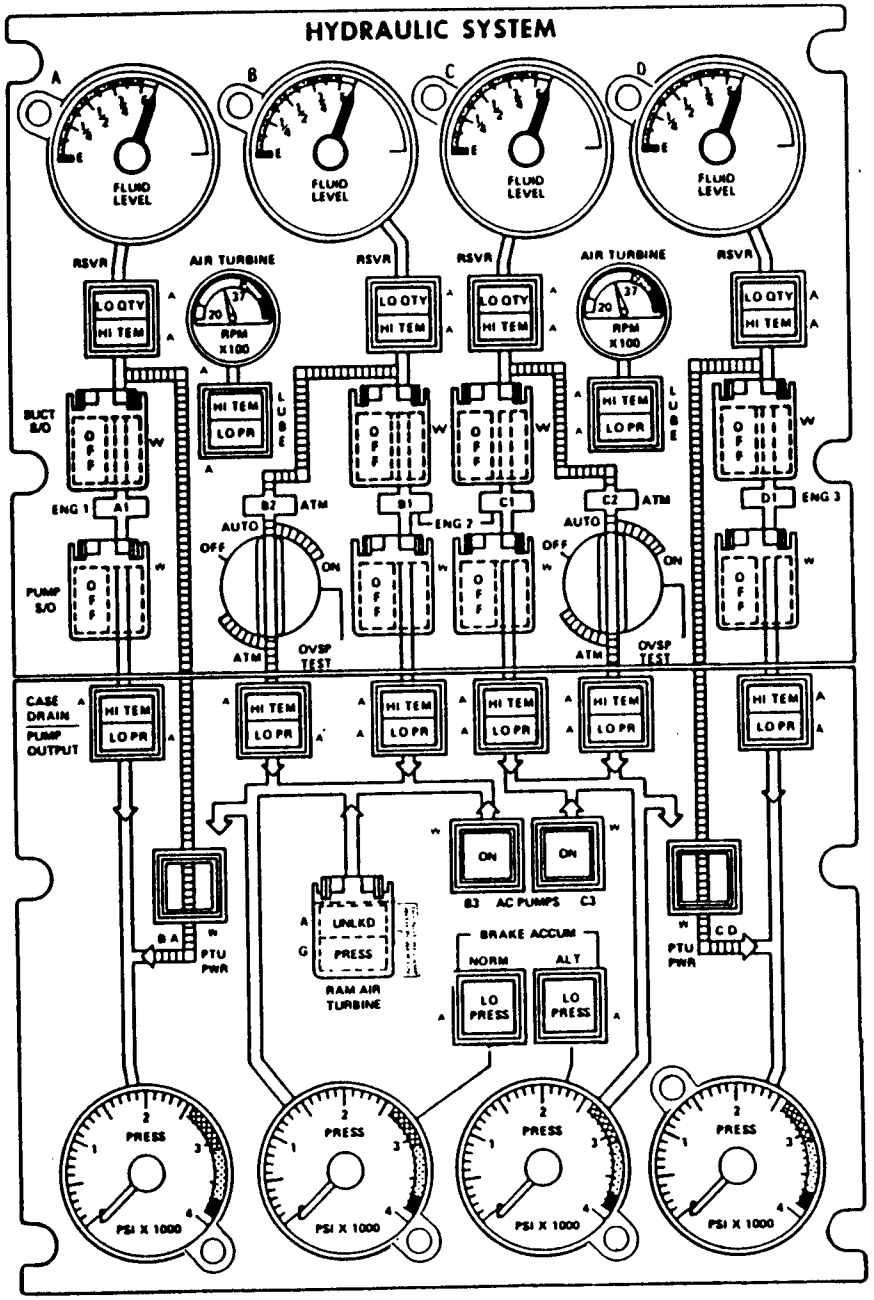
FLIGHT CONTROL AUXILIARY UNIT



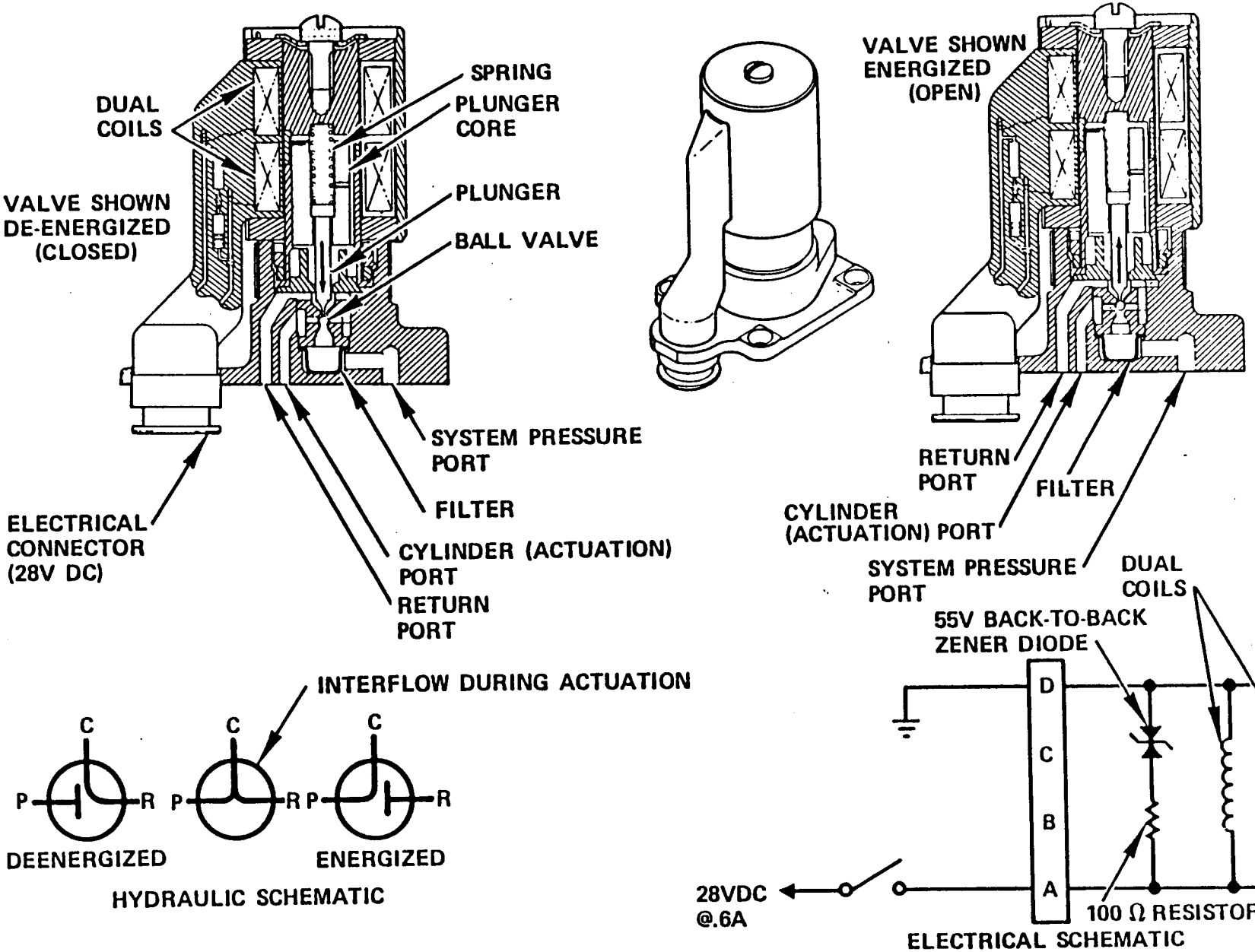
T-27-00-0005-003

FLIGHT CONTROLS HYDRAULIC POWER DISTRIBUTION

L-1011



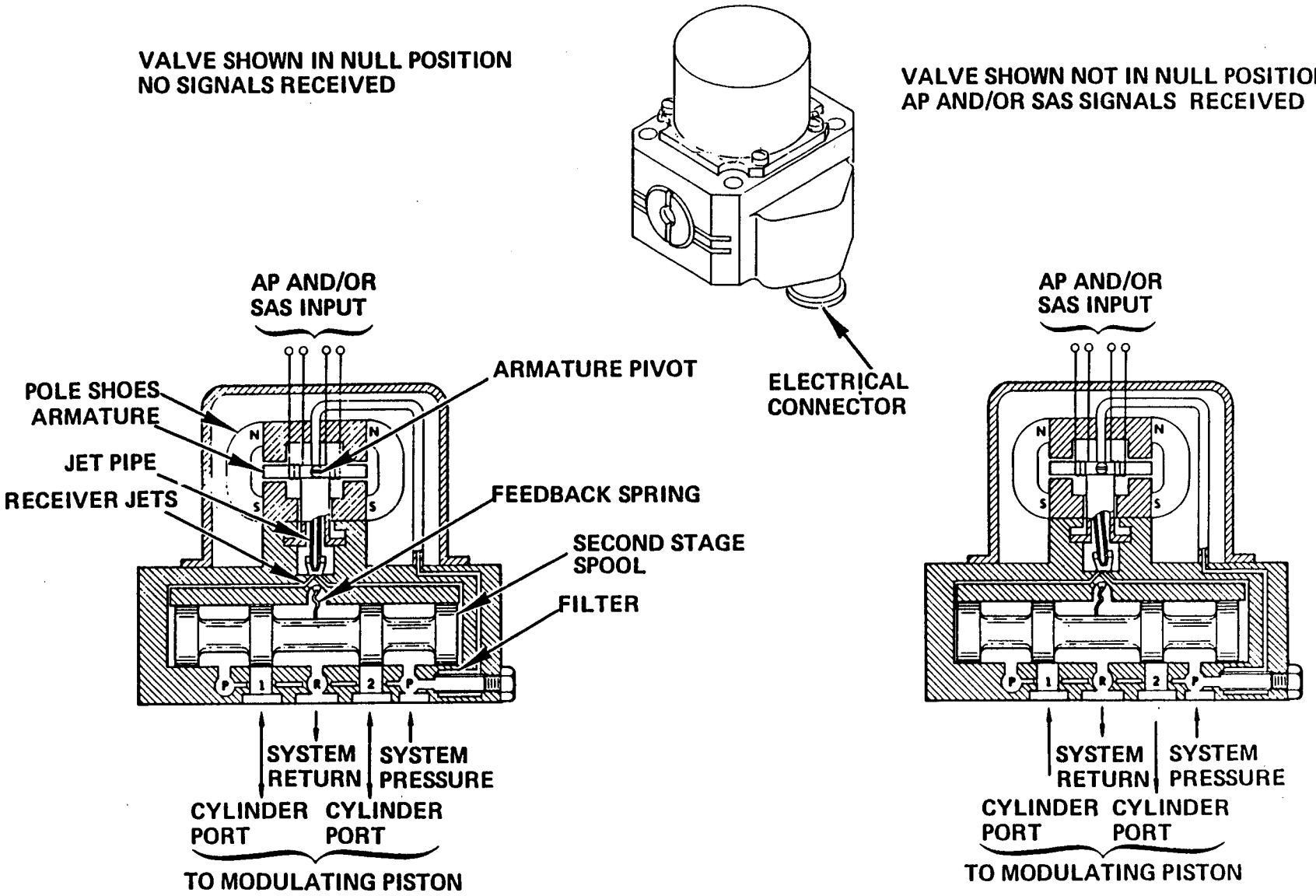
HYDRAULIC SYSTEM CONTROL PANEL



SOL. SO VALVE ELECT/HYD SCHEM. (ON FLT. CONT. SERVOS–TYPICAL)

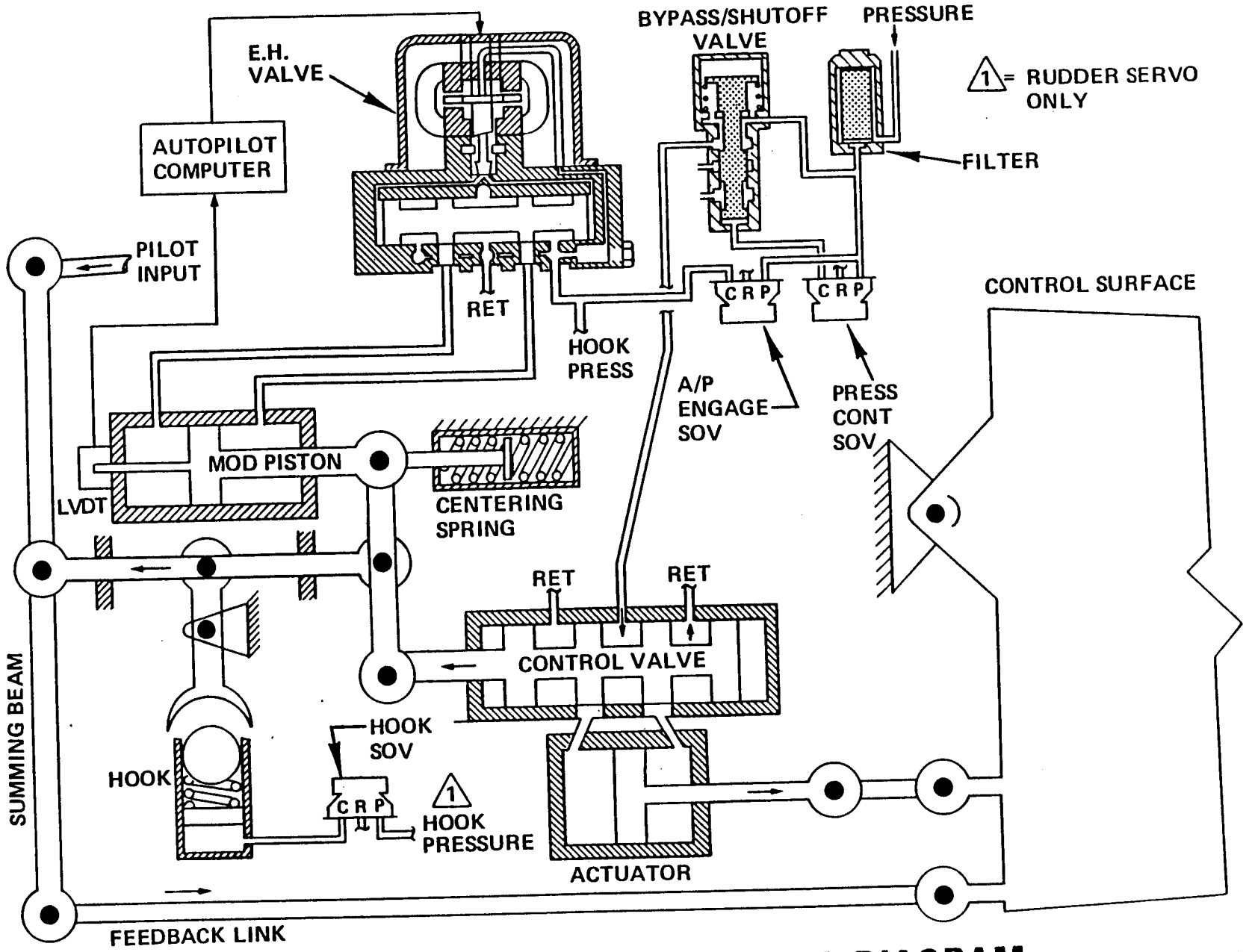
T-27-11-0001-109

L-1011 12/72



ELECTRO-HYDRAULIC SERVO VALVE SCHEMATIC (ON FLIGHT CONTROLS SERVOS – TYPICAL)

T-27-11-0002-001

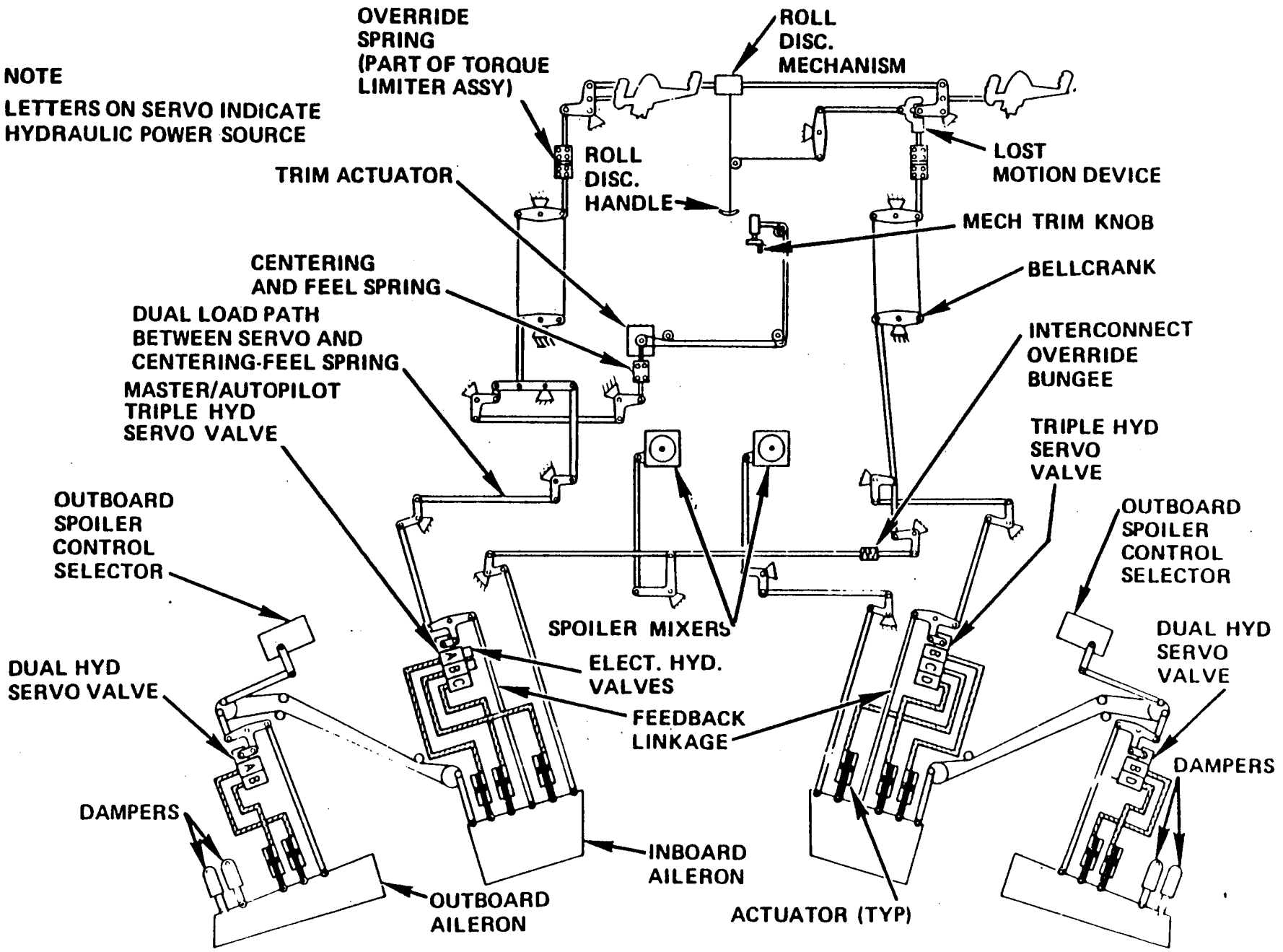


T-22-00-0003-043

SERVO SIMPLIFIED FUNCTIONAL DIAGRAM

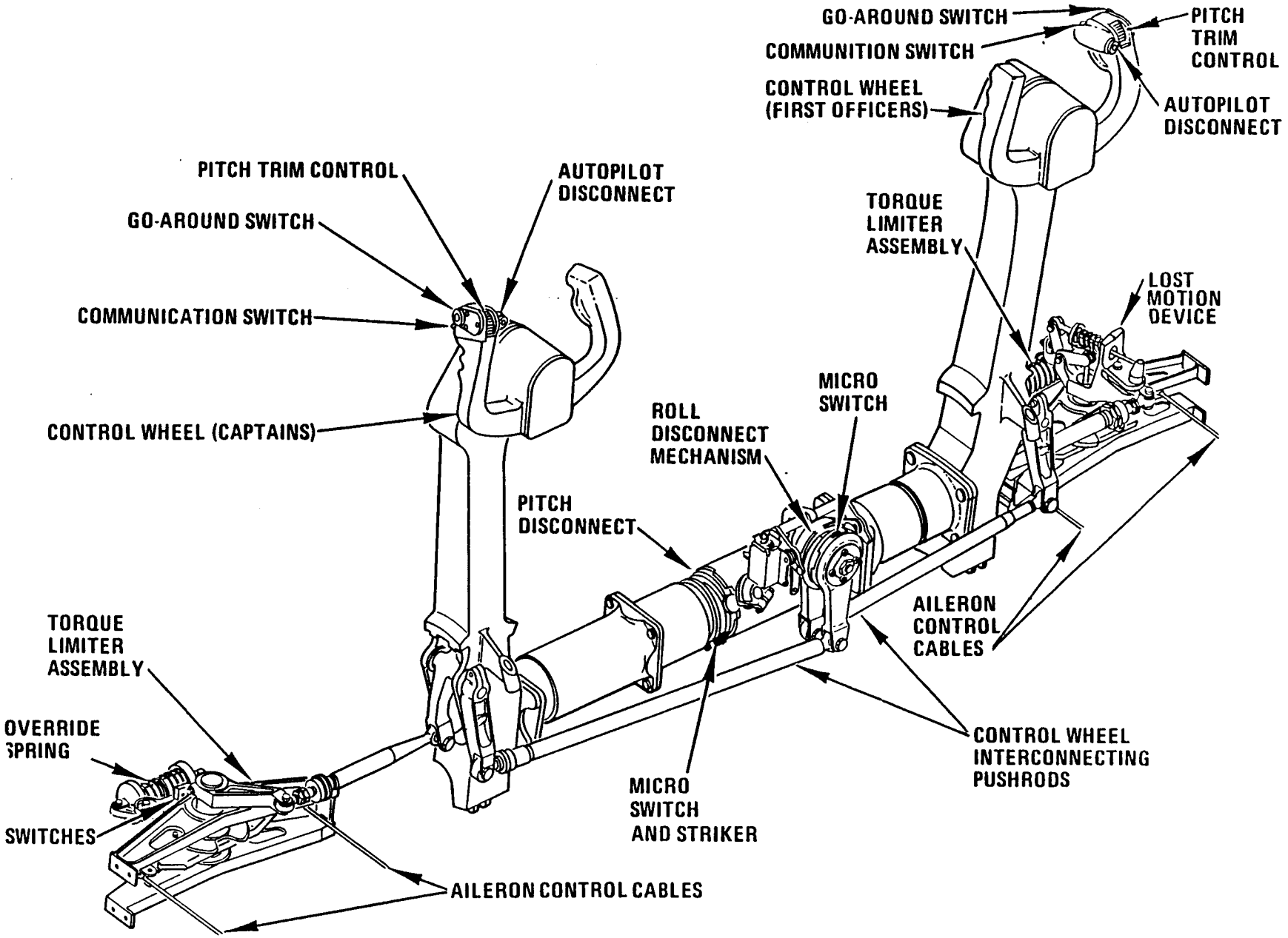
L-1011

FOR TRAINING PURPOSES ONLY



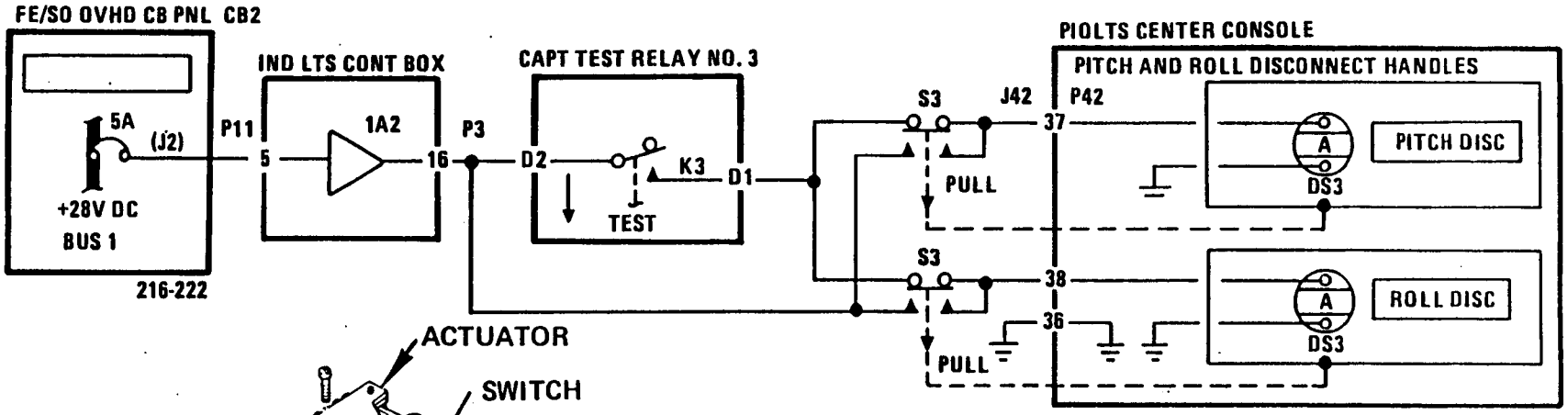
T-27-00-0002-004

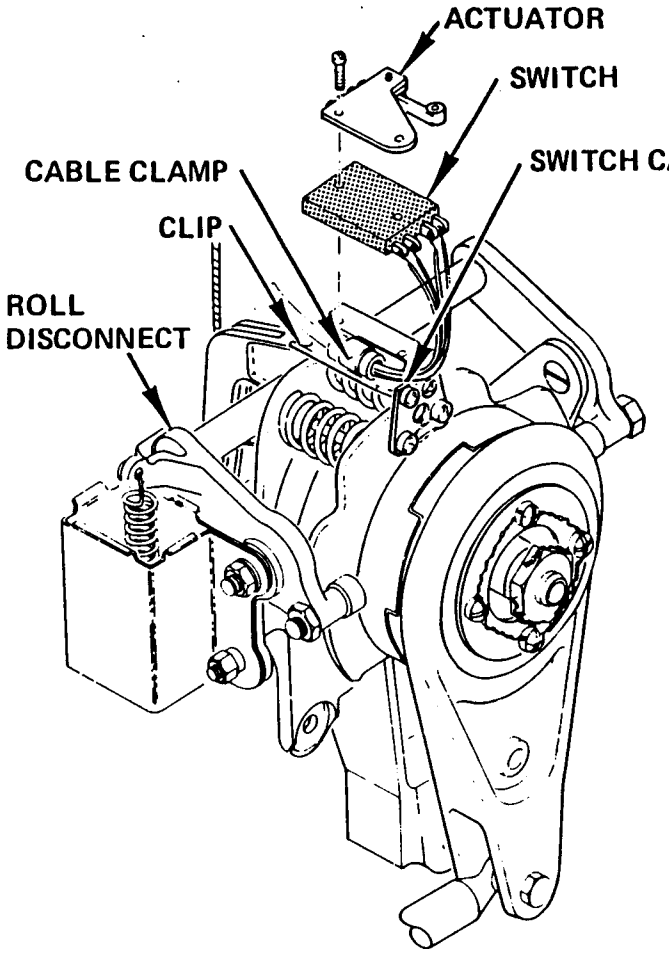
AILERON CONTROL SYSTEM SCHEMATIC

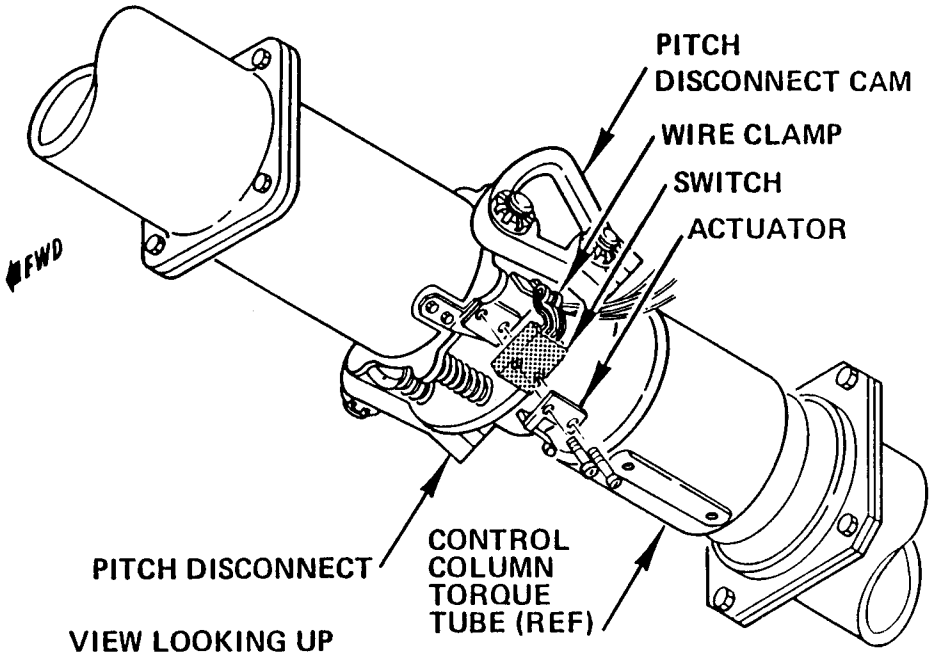


T-27-11-0002-007

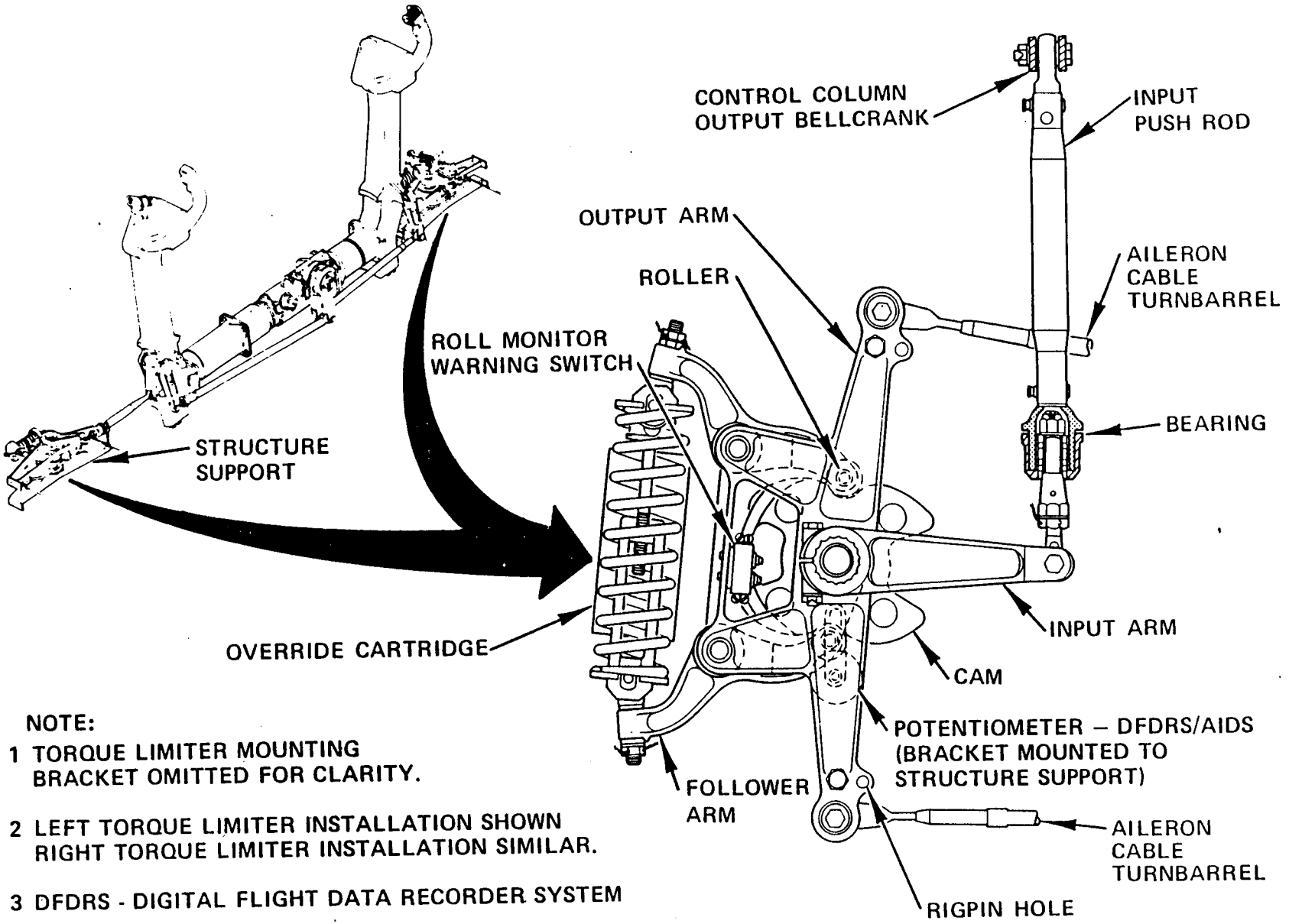
AILERON CONTROLS – FLIGHT STATION







T-27-11-0000-110 **ROLL & PITCH DISCONNECT HANDLE LIGHT SCHEMATIC** L-1011 11/74



NOTE:

1 TORQUE LIMITER MOUNTING BRACKET OMITTED FOR CLARITY.

2 LEFT TORQUE LIMITER INSTALLATION SHOWN RIGHT TORQUE LIMITER INSTALLATION SIMILAR.

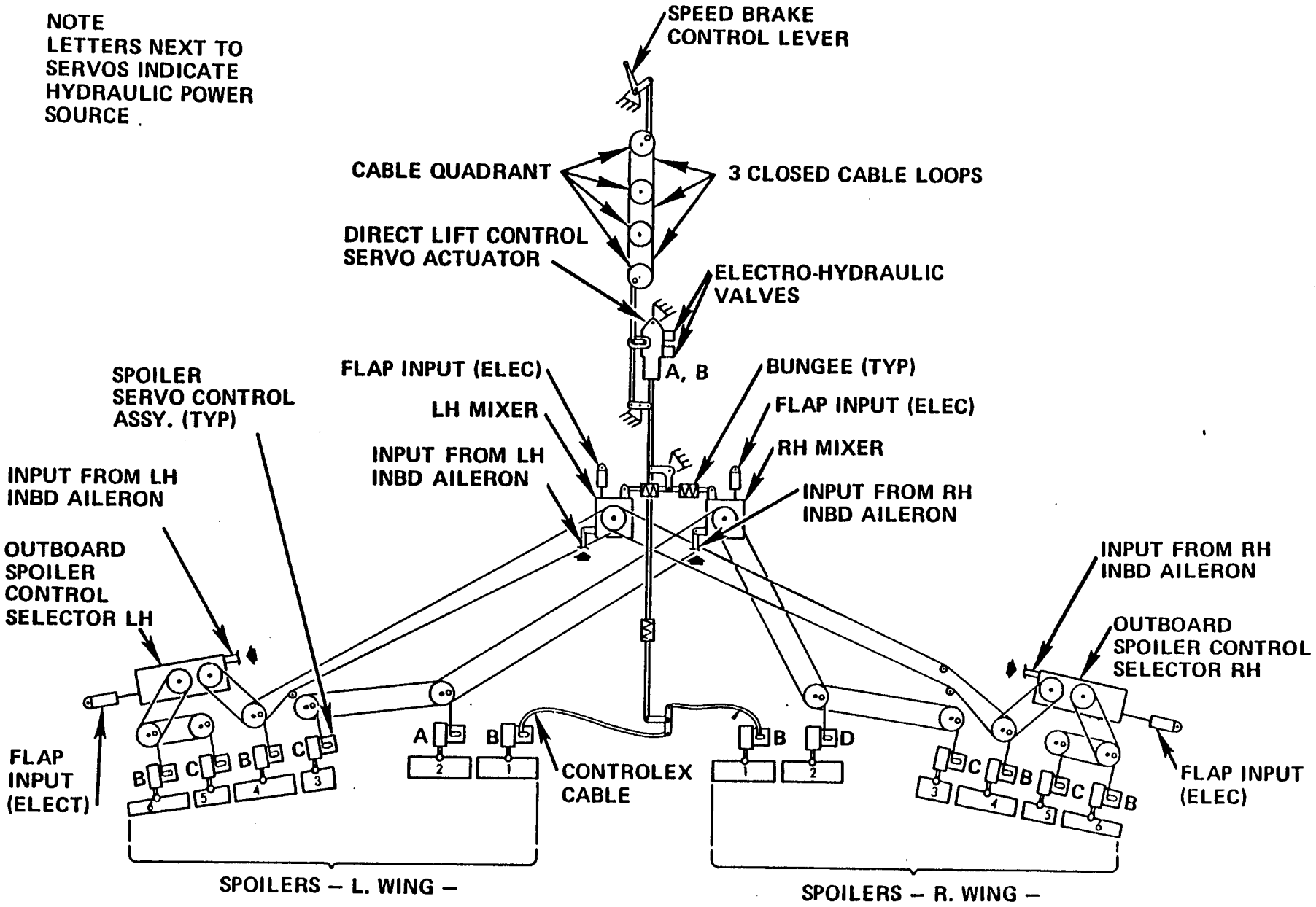
3 DFDRS - DIGITAL FLIGHT DATA RECORDER SYSTEM

4 AIDS - AIRCRAFT INTEGRATED DATA SYSTEM.

T-27-11-0003-088

AILERON TORQUE LIMITER ASSEMBLY

L-1011
5/74



T27-00-0102-010 .

SPOILER CONTROL SYSTEM SCHEMATIC

SPEEDBRAKE – SPOILER MODES	SPOILER NUMBER						AILERONS		SPOILER TRAVEL LIMITS
	1	2	3	4	5	6	INBD	ODB	
FLAPS UP (0°)									
AIR SPEED BRAKE	0	X	X	X	X	X	0	0	0° TO 60°
ROLL AUGMENTATION	0	0	0	0	0	0	X	X	DWELLED
FLAPS DOWN (4°–33°)									
ROLL AUGMENTATION	0	X	X	X	X	X	X	X	0° TO 40°
DIRECT LIFT CONTROL	X	X	X	X	0	0	0	0	7° ± 7°
AUTOMATIC GROUND SPOILERS	X	X	X	X	0	0	0	0	60°

NOTE: X = SPOILER OR AILERON OPERATIVE.

0 = SPOILER OR AILERON INOPERATIVE.

DLC - FLAPS >30 DEGREES AND
2 OUT OF 3 THROTTLELEVERS
BELOW MAX. POWER SETTING

AGS - L. AND R. MLG STRUTS COMPRESSED OR,
L. AND R. BOGIES (TRUCKS) TILTED

AILERON-SPOILER SCHEDULING

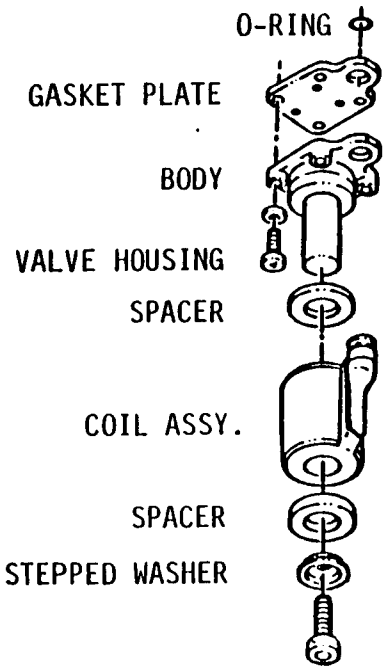
SV-1 CH.1 DLC ENGAGE
SV-2 CH.1 DLC ENGAGE
SV-3 CH.1 STROKE LIMITER
SV-4 CH.2 DLC ENGAGE
SV-5 CH.2 STROKE LIMITER
SV-6 CH.1 MANUAL PRESS.
SV-7 CH.2 MANUAL PRESS.

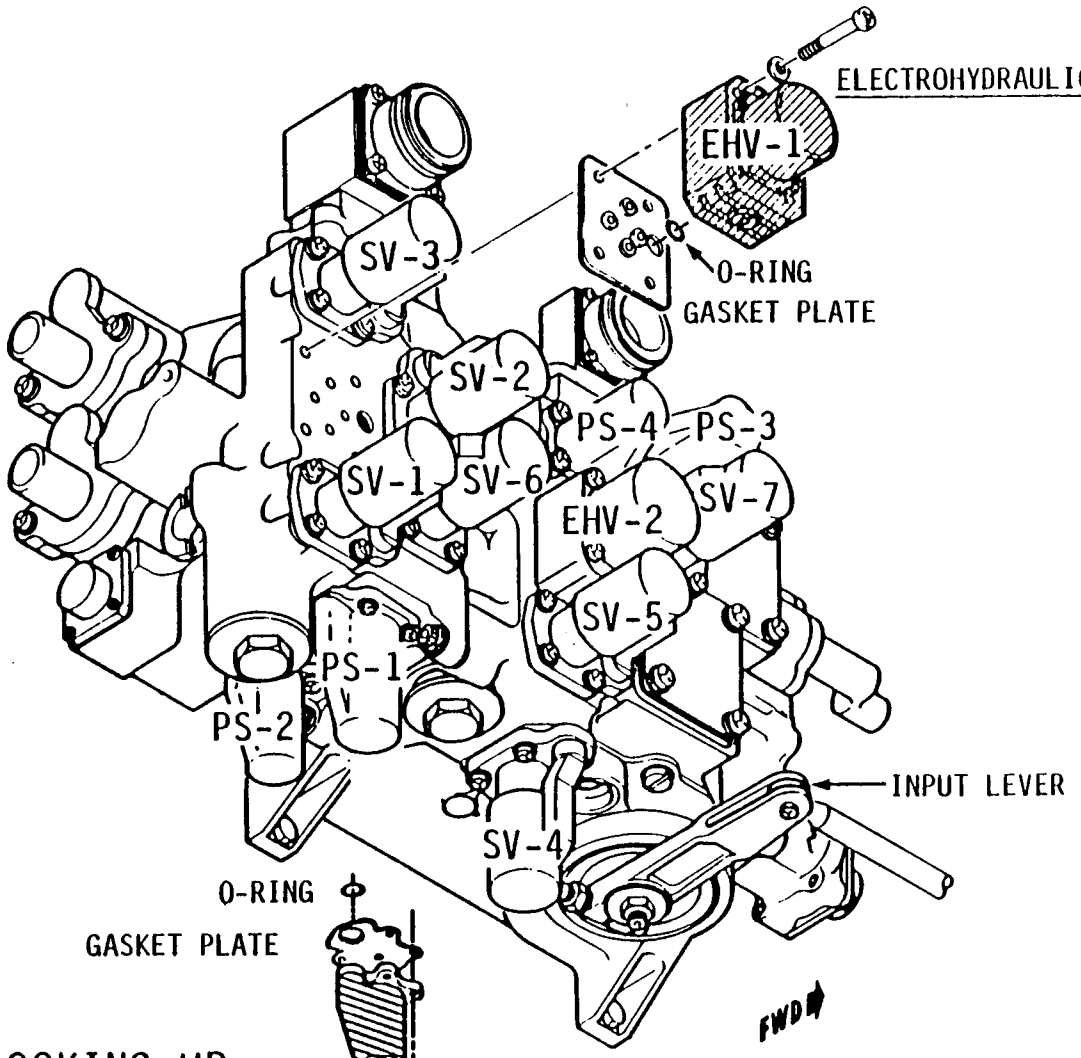
PS-1 CH.1 MANUAL PRESS.
PS-2 CH.1 STROKE LIMITER
PS-3 CH.2 MANUAL PRESS.
PS-4 CH.2 STROKE LIMITER

EHV-1 CH.1 SERVO
EHV-2 CH.2 SERVO

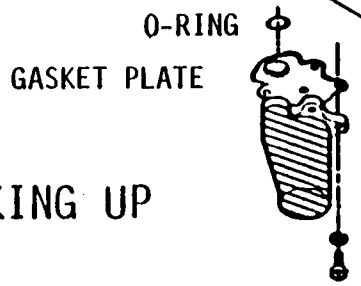
"A" HYD. SYS.-CH.2
"B" HYD. SYS.-CH.1

SOLENOID VALVE





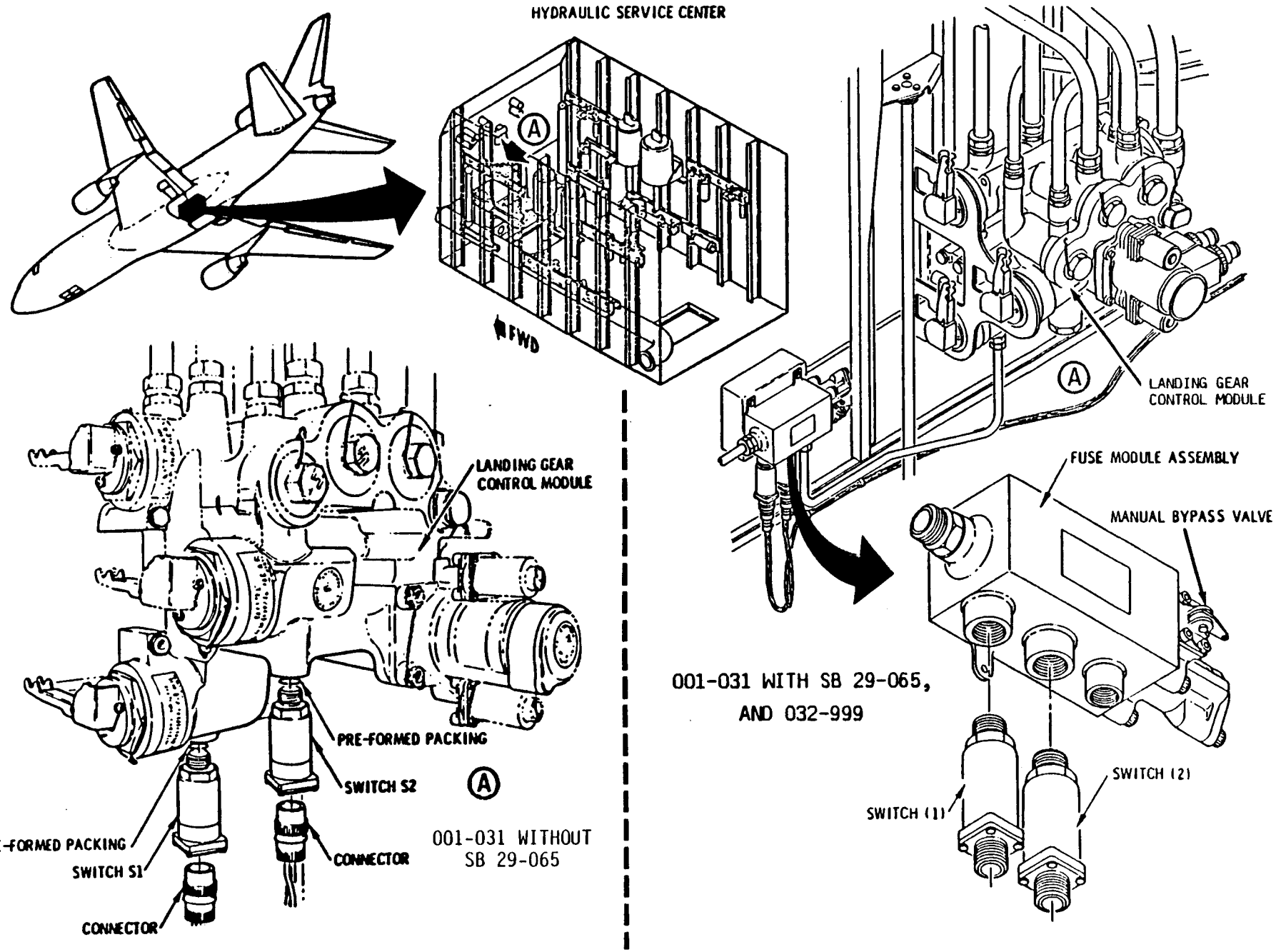
VIEW LOOKING UP

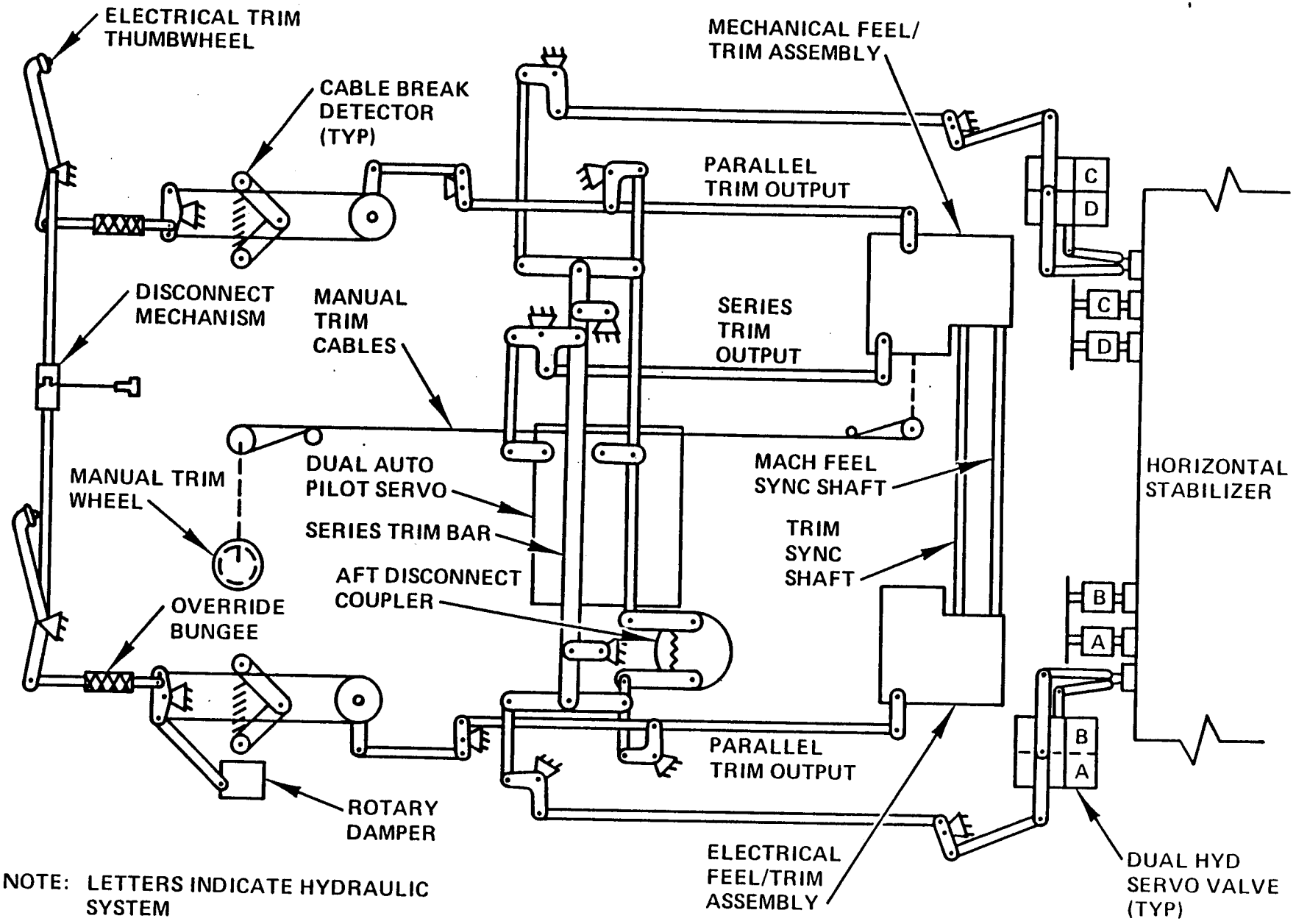


PRESSURE SWITCH

T27-61-11(TW)

D.L.C. SERVO


HYDRAULIC SERVICE CENTER
A
FWD
LANDING GEAR CONTROL MODULE
FUSE MODULE ASSEMBLY
MANUAL BYPASS VALVE
SWITCH (2)
SWITCH (1)
001-031 WITH SB 29-065, AND 032-999
LANDING GEAR CONTROL MODULE
PRE-FORMED PACKING
SWITCH S2
A
PRE-FORMED PACKING
SWITCH S1
CONNECTOR
CONNECTOR
001-031 WITHOUT SB 29-065

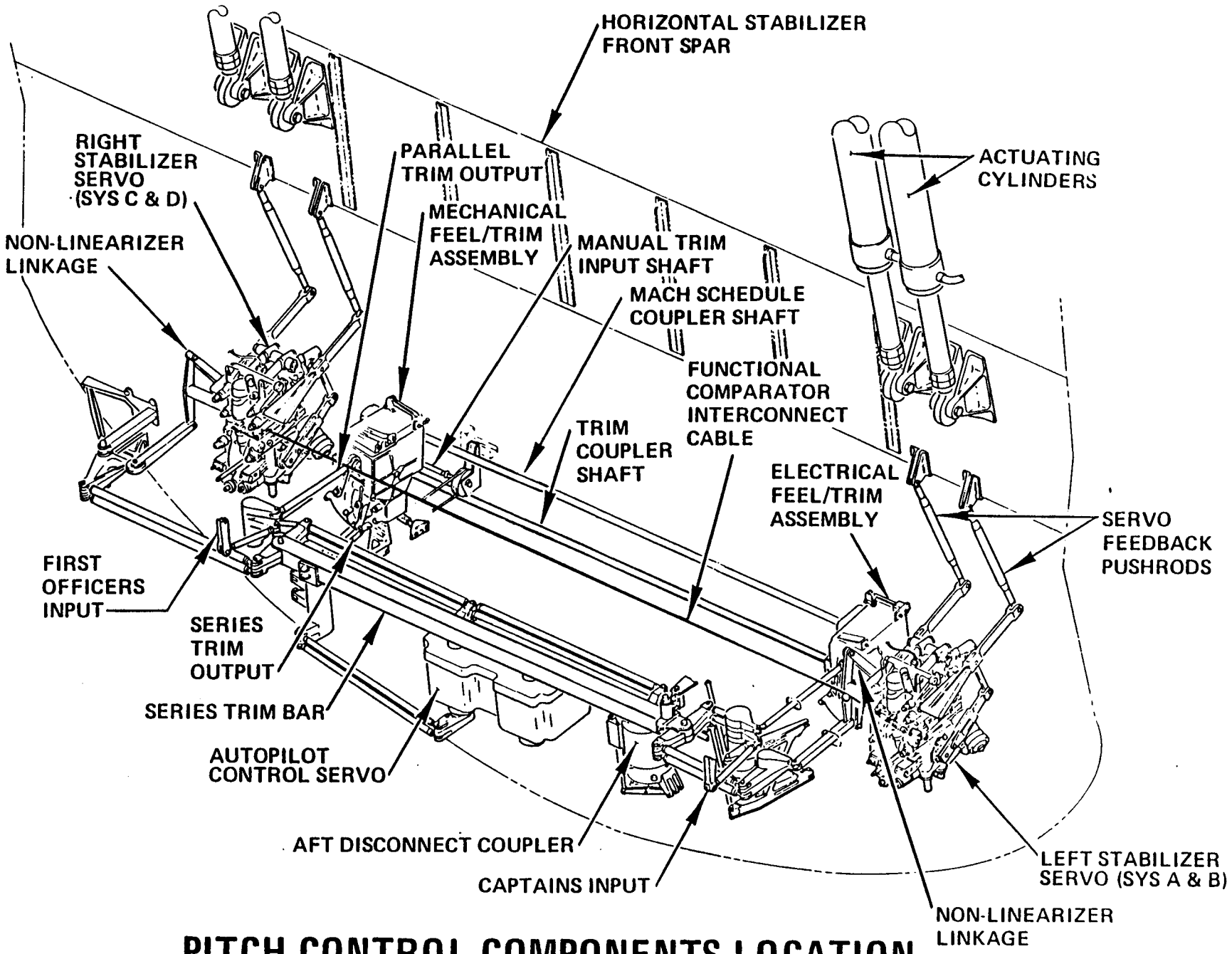


NOTE: LETTERS INDICATE HYDRAULIC SYSTEM

T-27-00-0004-007

STABILIZER CONTROL SYSTEM SCHEMATIC

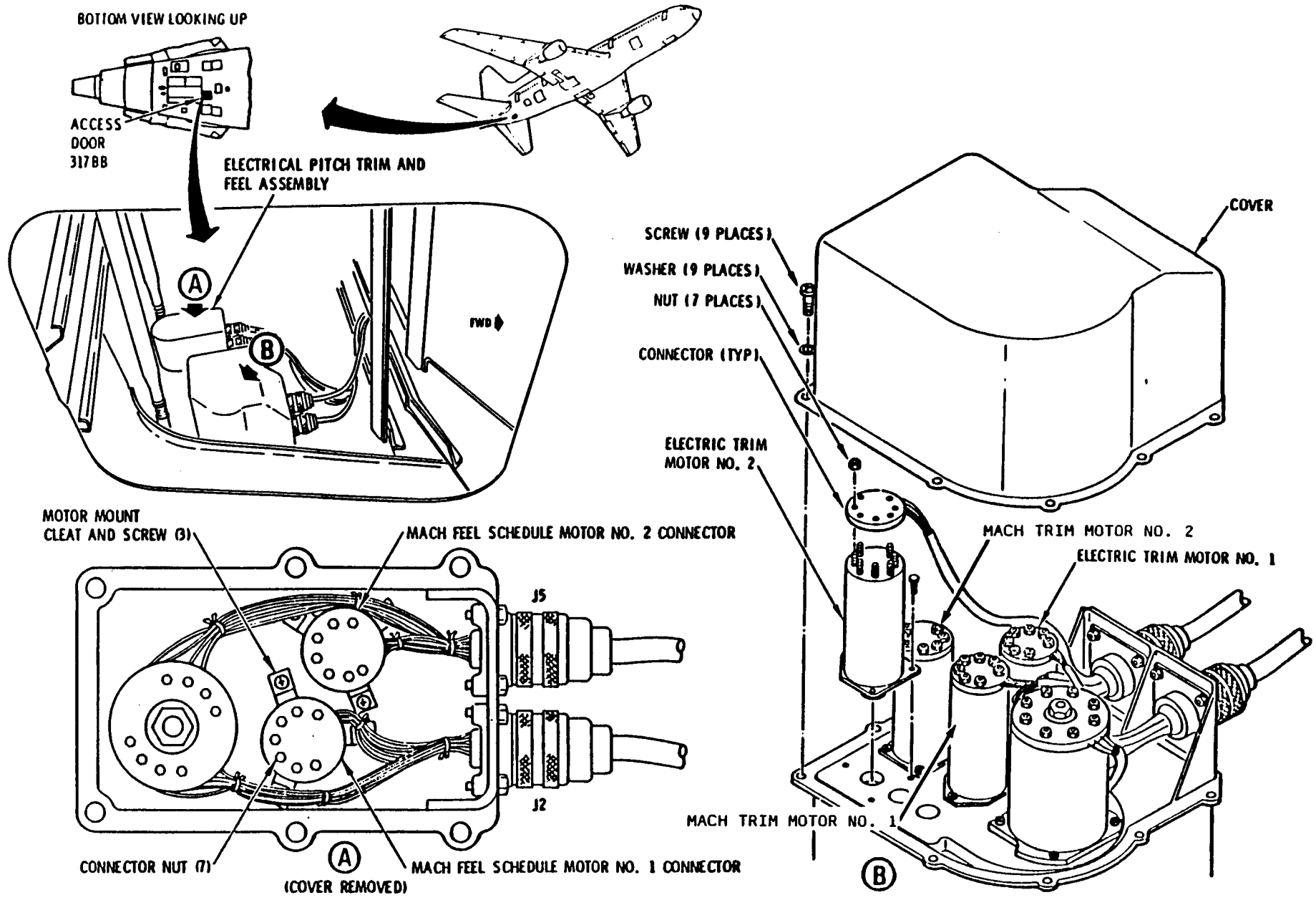
L-1011



PITCH CONTROL COMPONENTS LOCATION (AFTERBODY)

T-27-41-0101-010

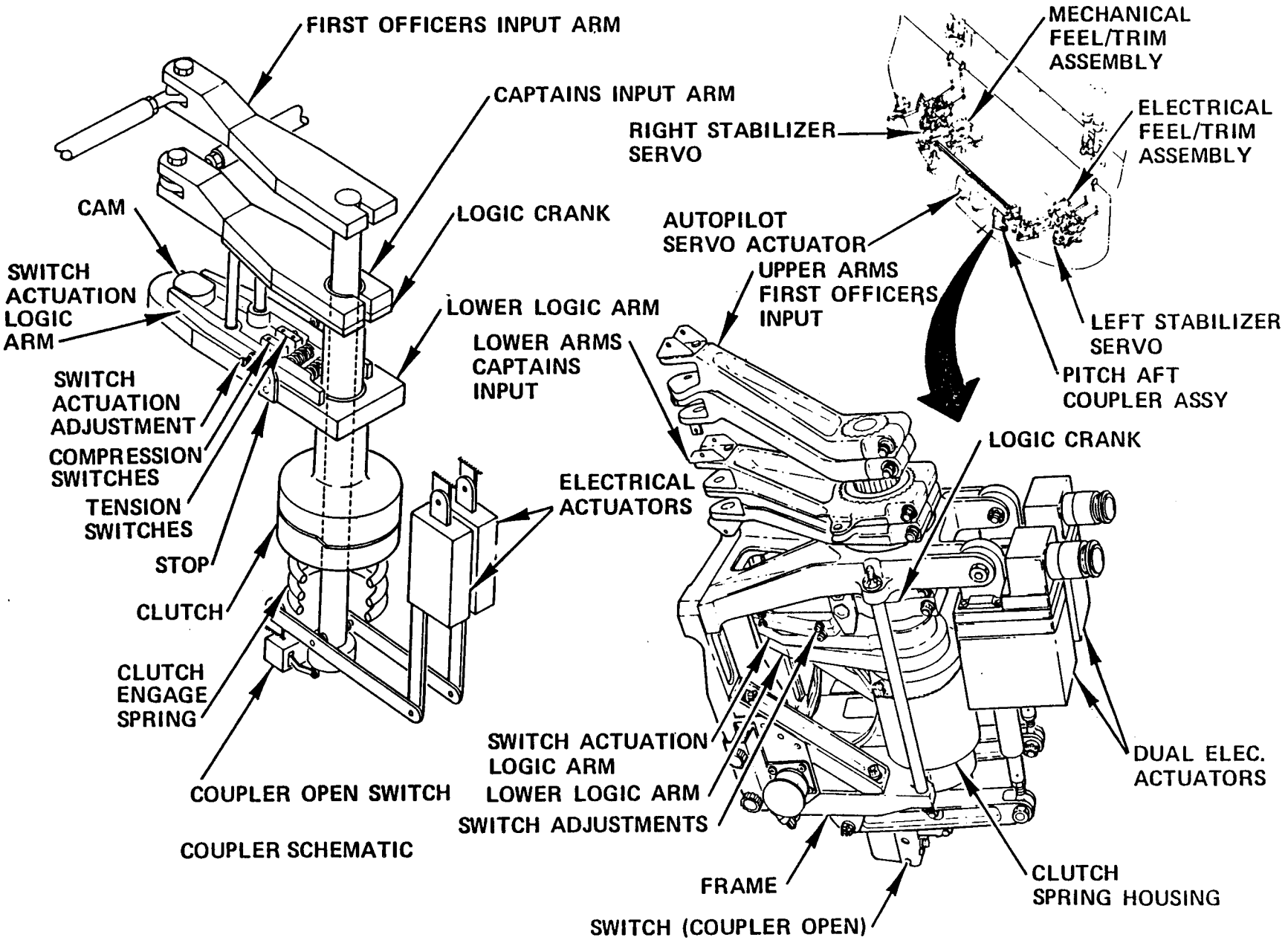
L-101 2/72



22-18-TW

PITCH TRIM, MACH TRIM, MACH FEEL MOTORS INSTALLATION

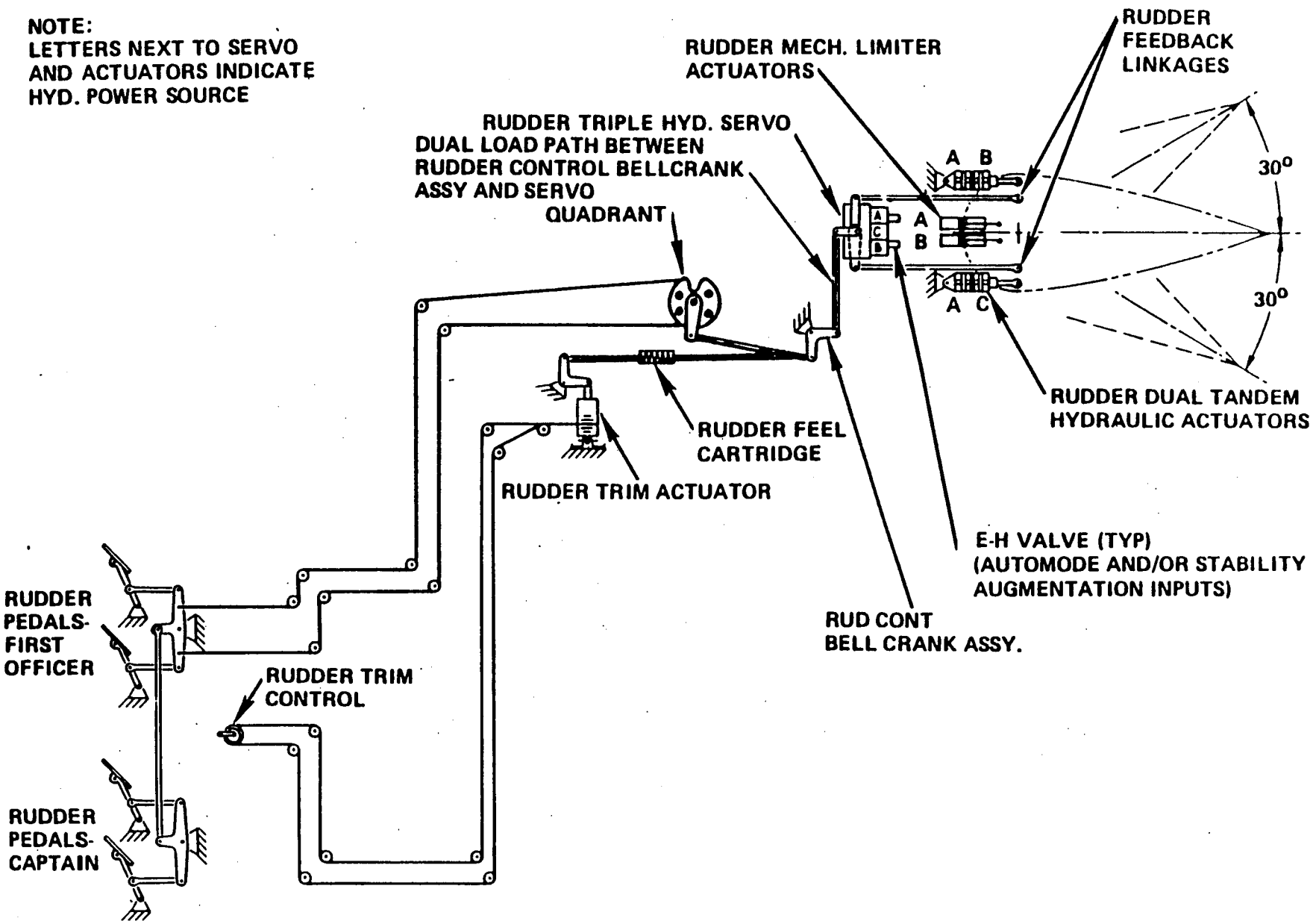
L-1011 228
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T-27-41-0002-040

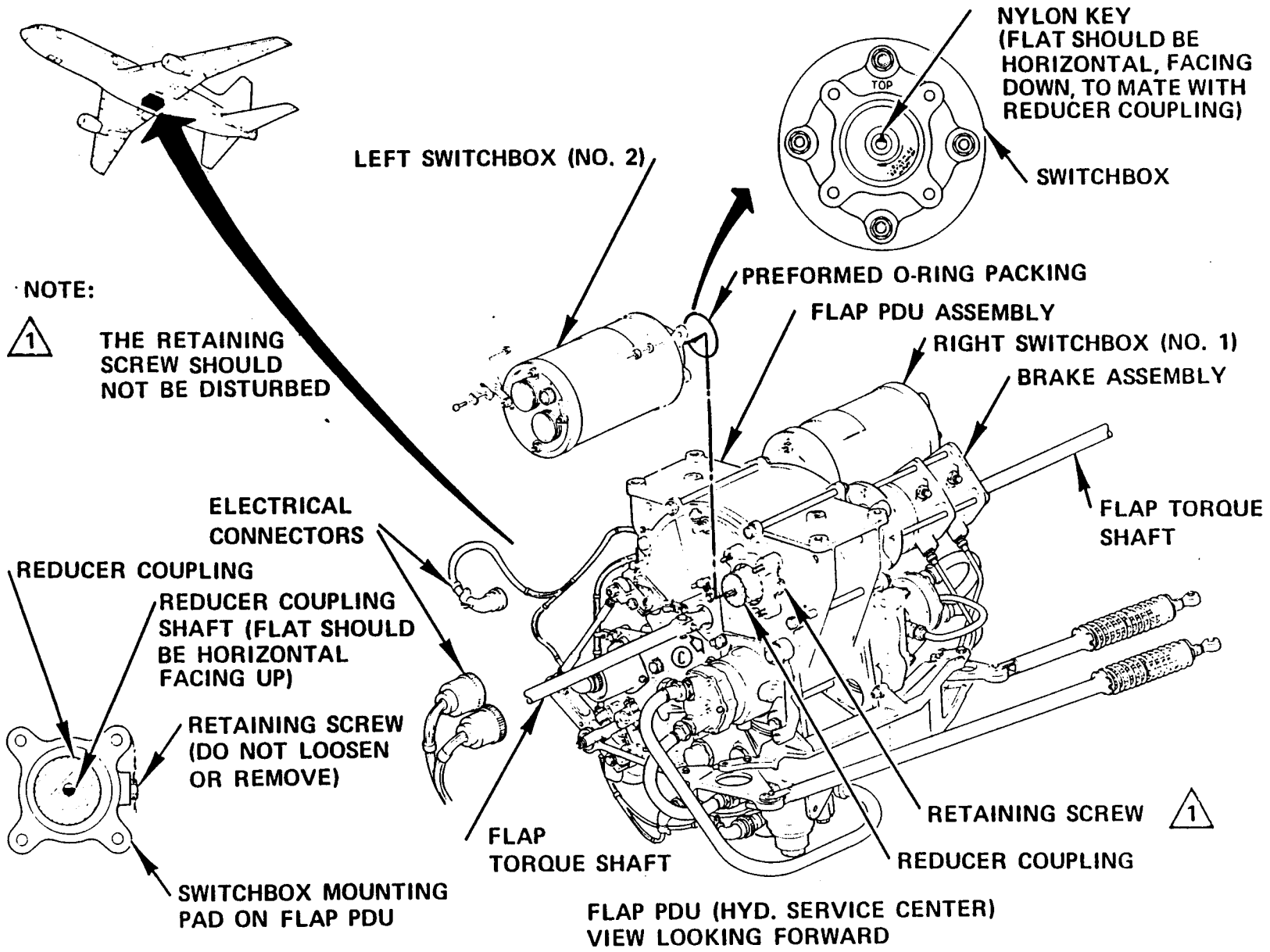
PITCH AFT COUPLER ASSEMBLY

L-1011
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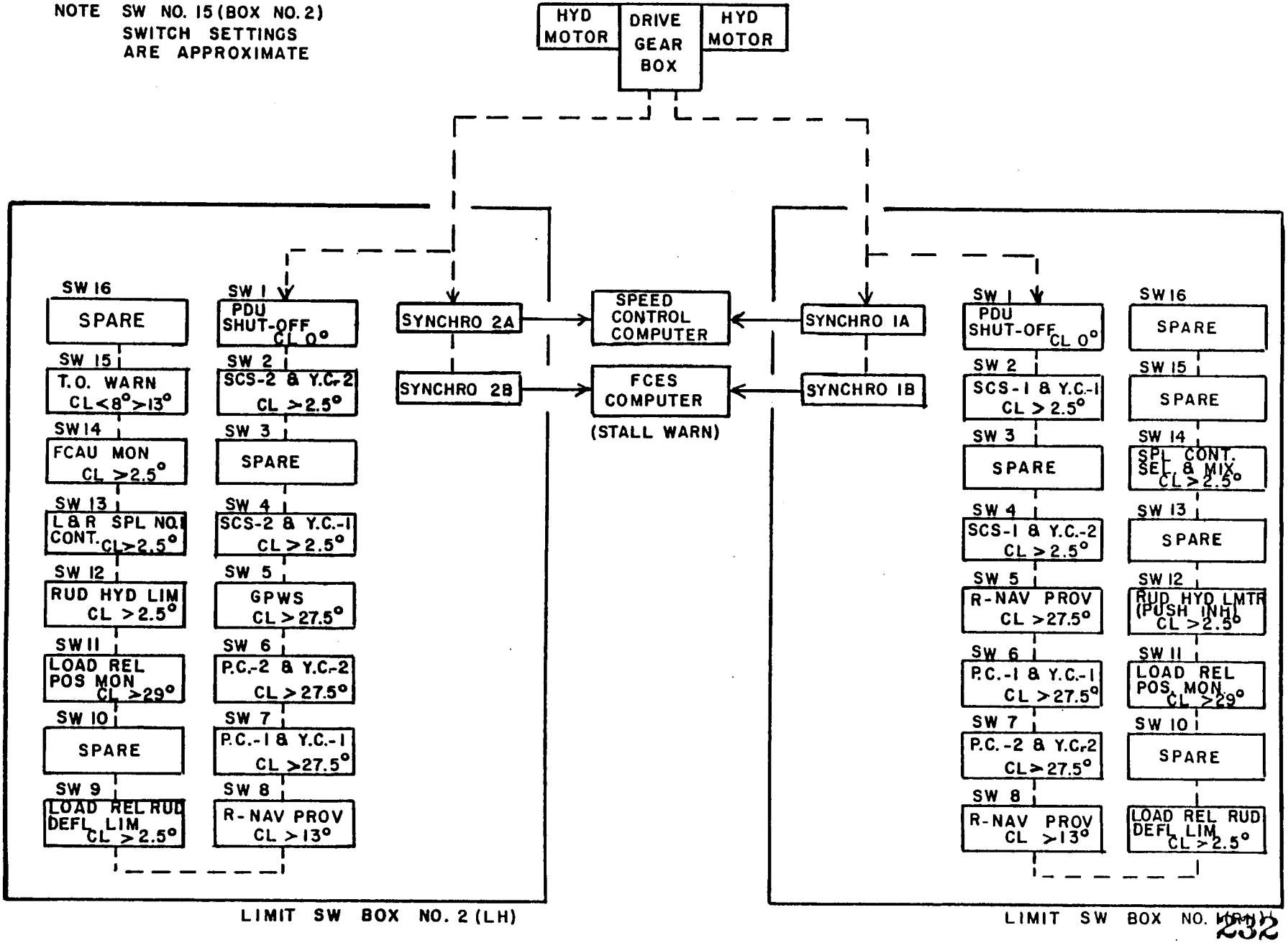
T-27-00-0002-006

RUDDER CONTROL SYSTEM SCHEMATIC

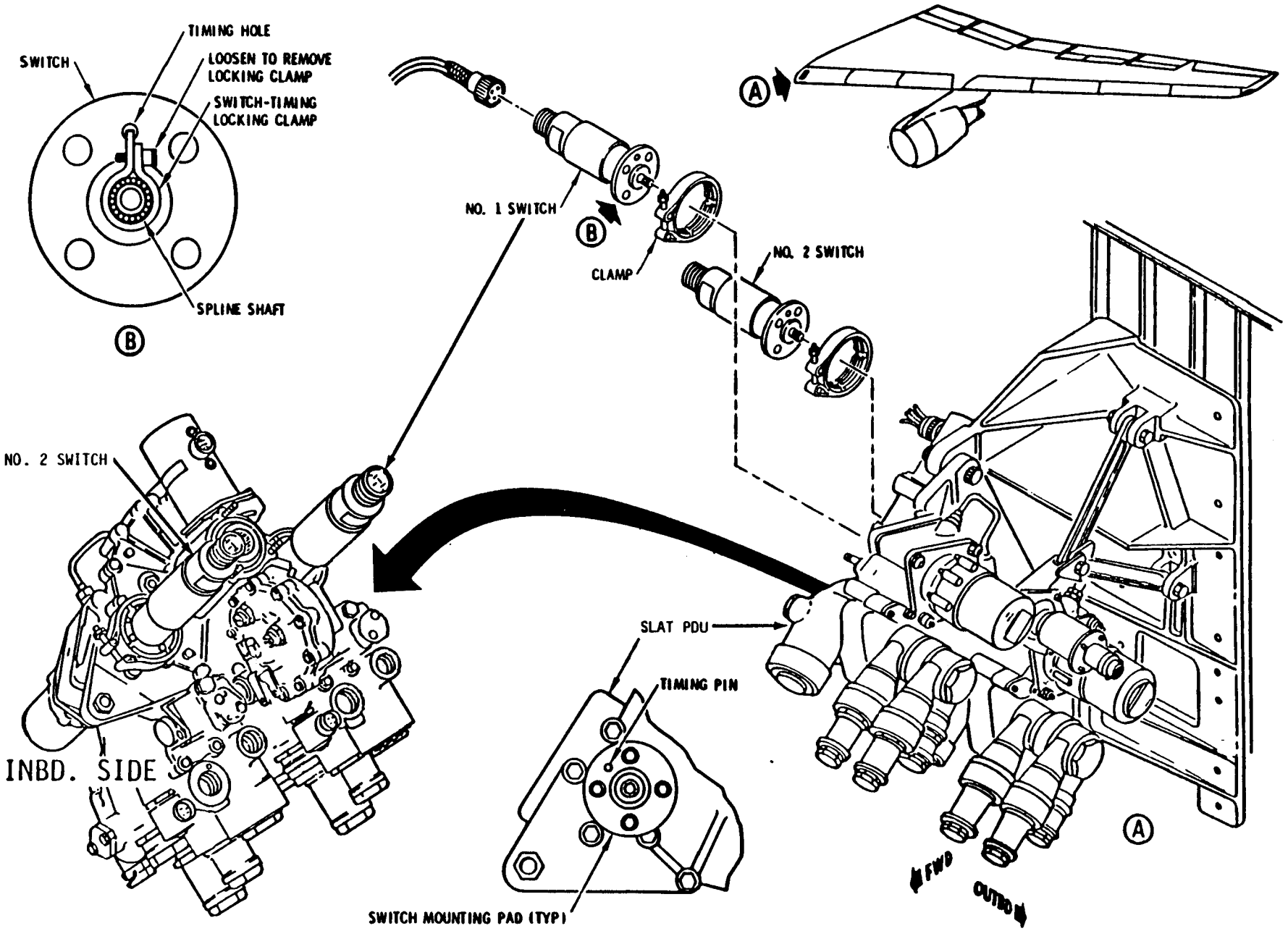


T-27-51-0000-062 **FLAP PDU SWITCHBOX - REMOVAL AND INSTALLATION** L-1011 8/74

NOTE SW NO. 15 (BOX NO. 2) SWITCH SETTINGS ARE APPROXIMATE

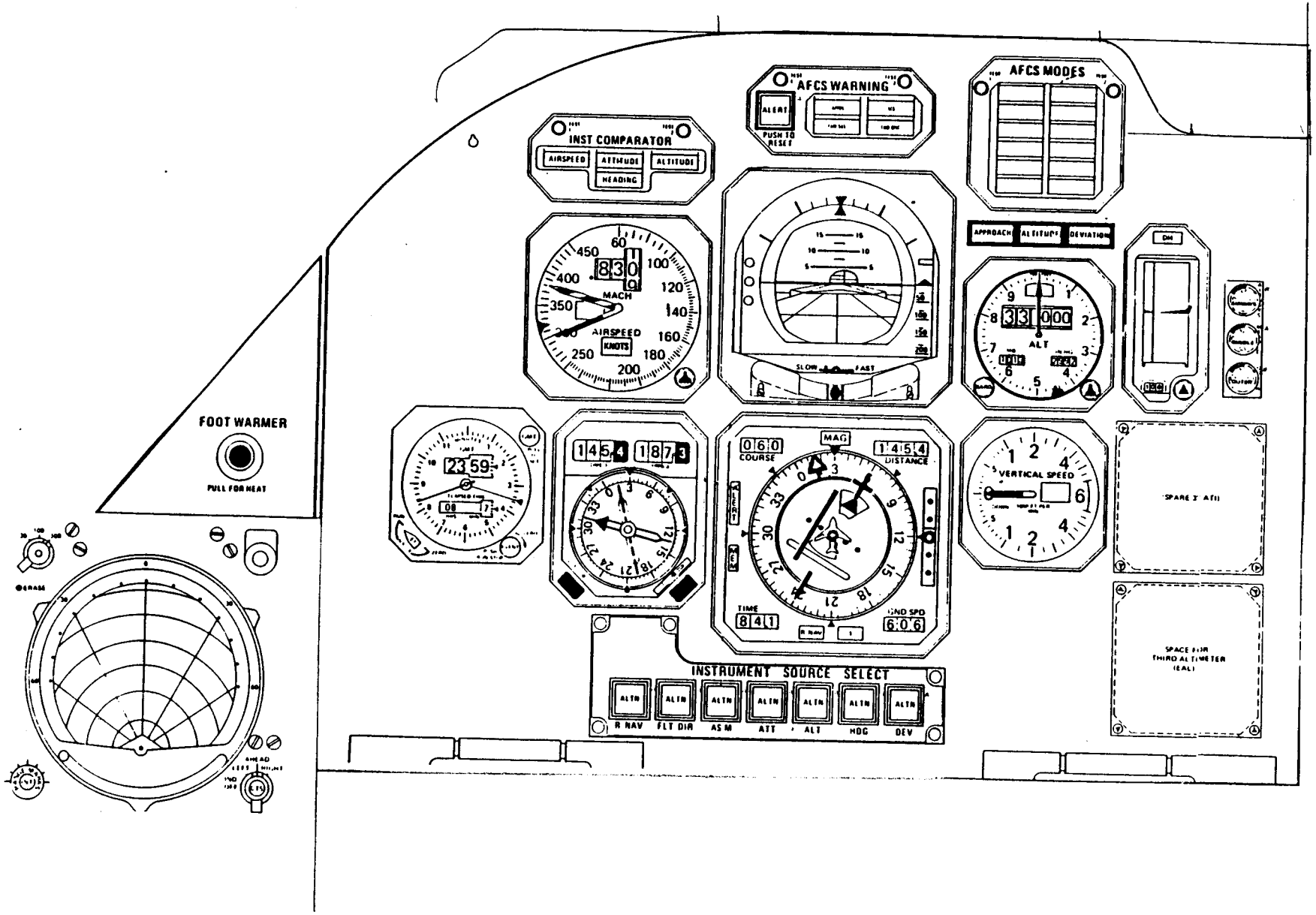


T27-51-057 (TW) FLAP PDU LIMIT SW BOX BLOCK DIAGRAM L1011



27-81-TW

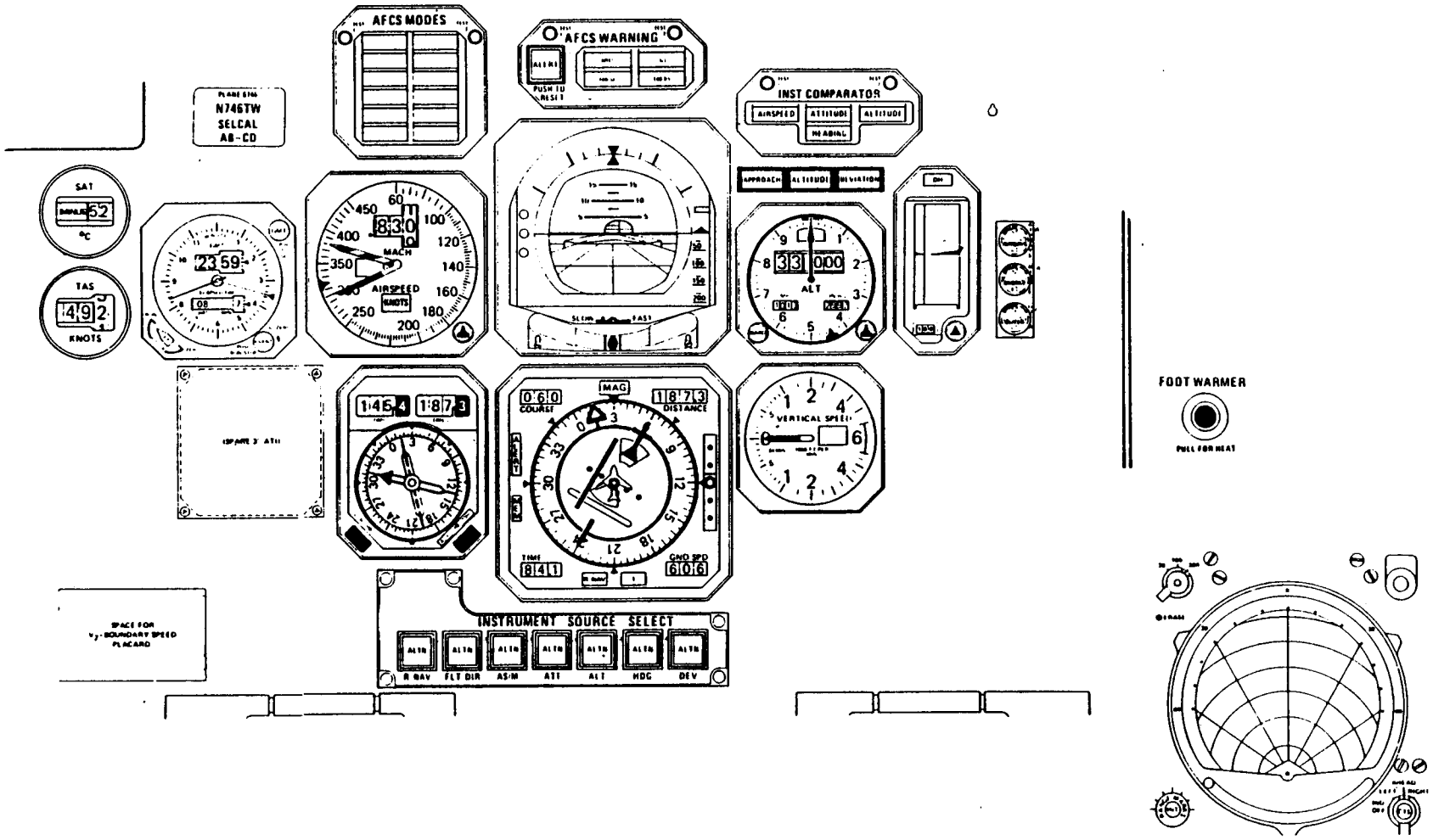
SLAT PDU POSITION SWITCHES INSTALLATION



T-31-00-5000-058

CAPTAINS PANEL

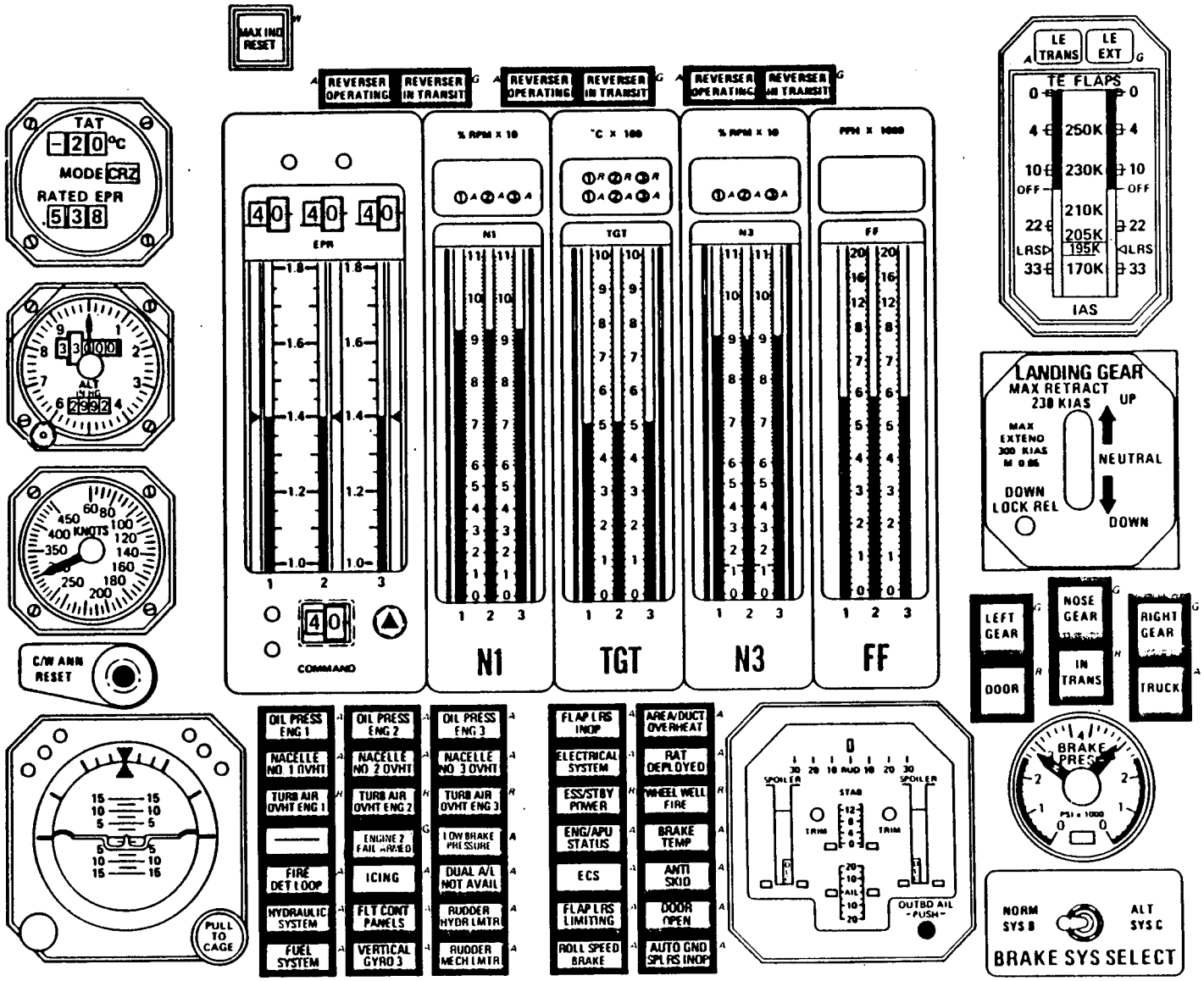
L-1011
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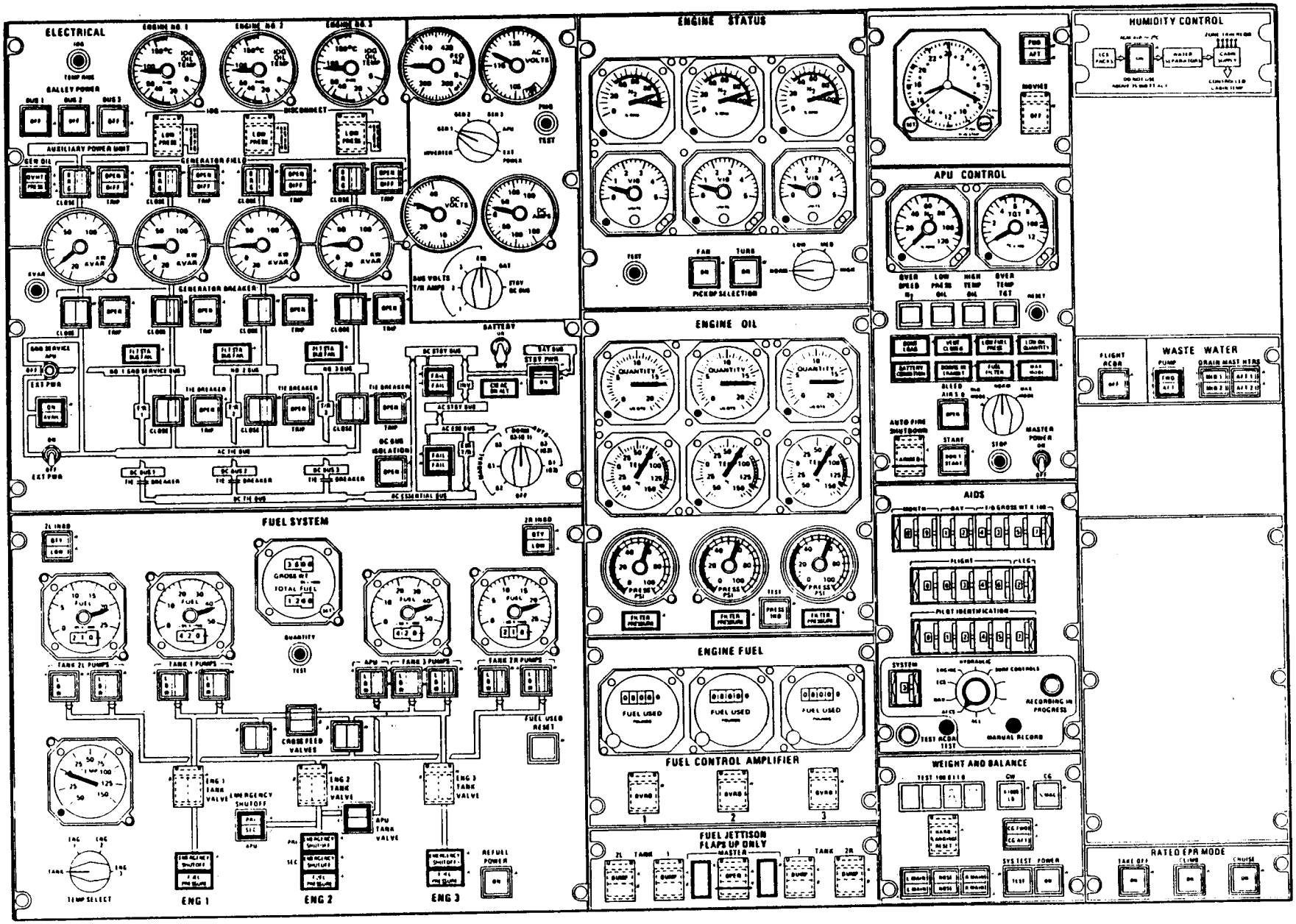
T-31-00-5000-057

FIRST OFFICERS PANEL

L-1011
3/72



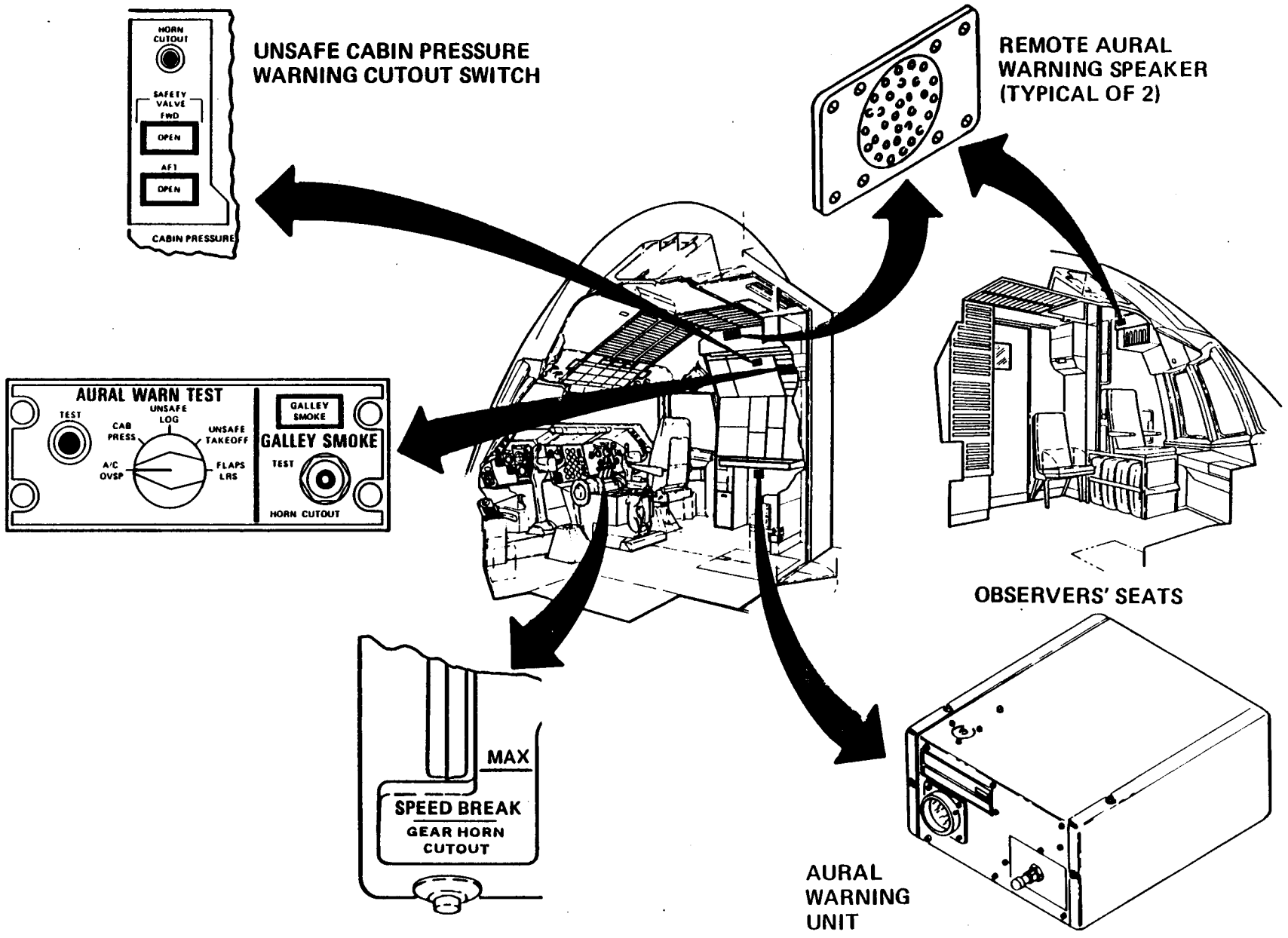
PILOTS CENTER PANEL



T-31-00-0002-060

FLIGHT ENGINEERS PANEL - LOWER

L-1011
11/72

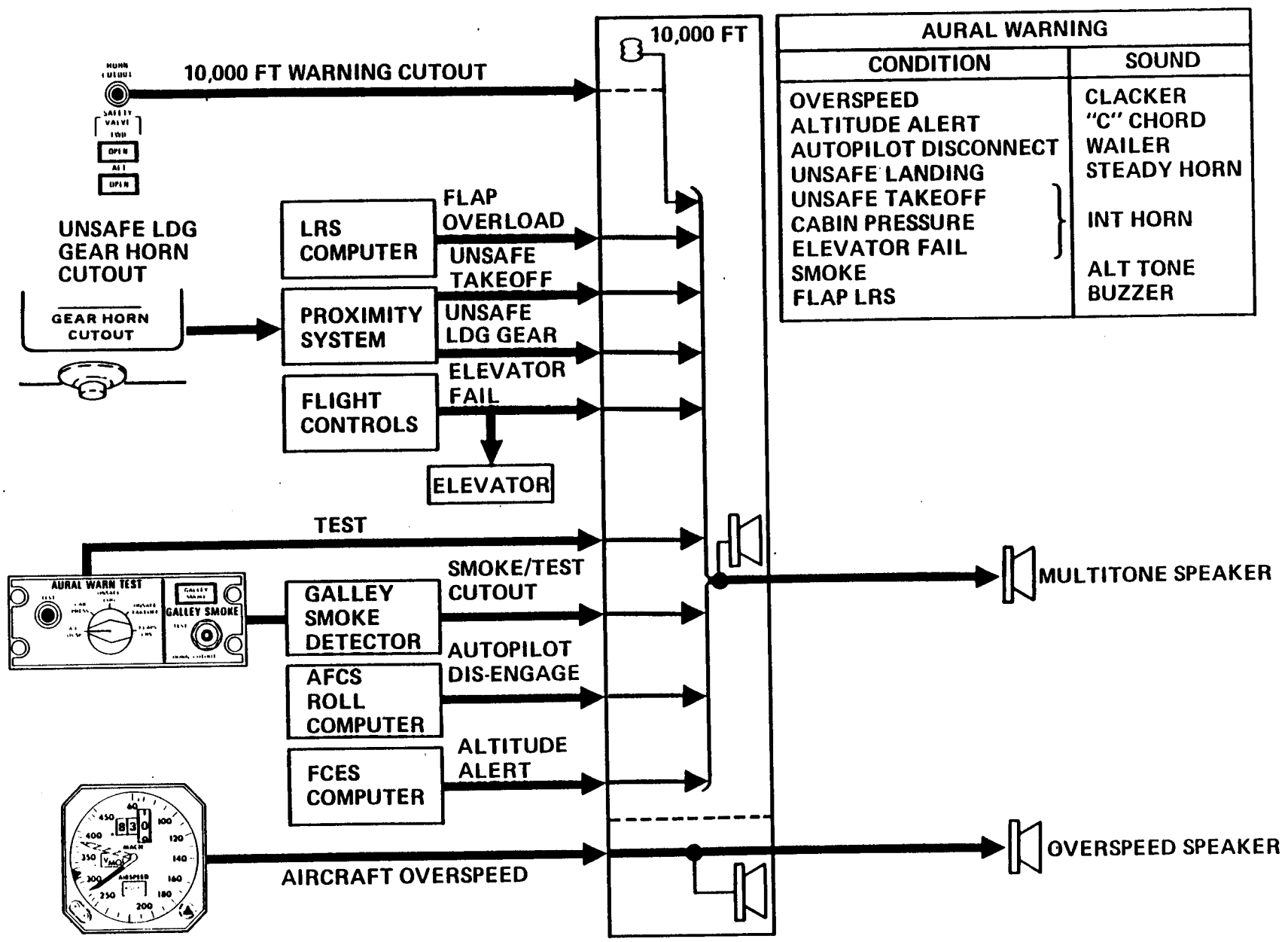


T-31-22-0000-080

AURAL WARNING SYSTEM COMPONENTS

FOR TRAINING PURPOSES ONLY

L1011

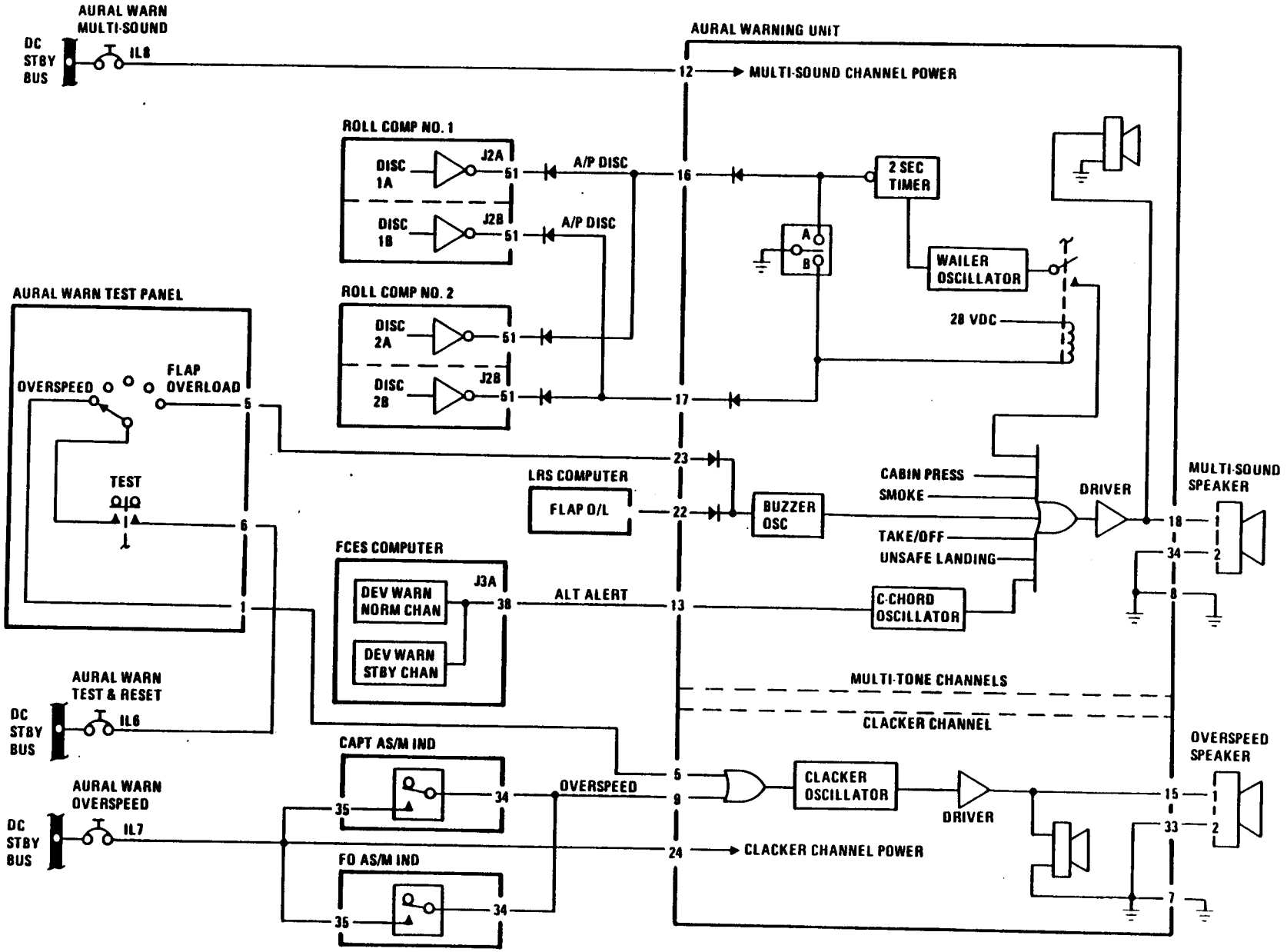


T-31-22-0000-079

AURAL WARNING SYSTEM

FOR TRAINING PURPOSES ONLY

L-1011



T-31-22-0001-071

ALT. ALERT, A/P DISC, AND OVERSPEED WARN

L-1011

FOR TRAINING PURPOSES ONLY

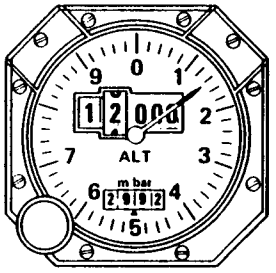
STATIC PORT

LAV JET PUMP DIFF PRESS SW (LEFT BOTTOM SIDE)

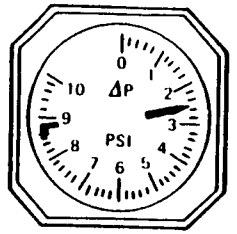
PITOT-STATIC PROBES (4 EACH)

STATIC PORTS ECS SYSTEM (LEFT SIDE)

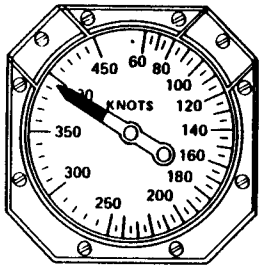
STATIC PORT APU CONTROLLER (RIGHT SIDE)



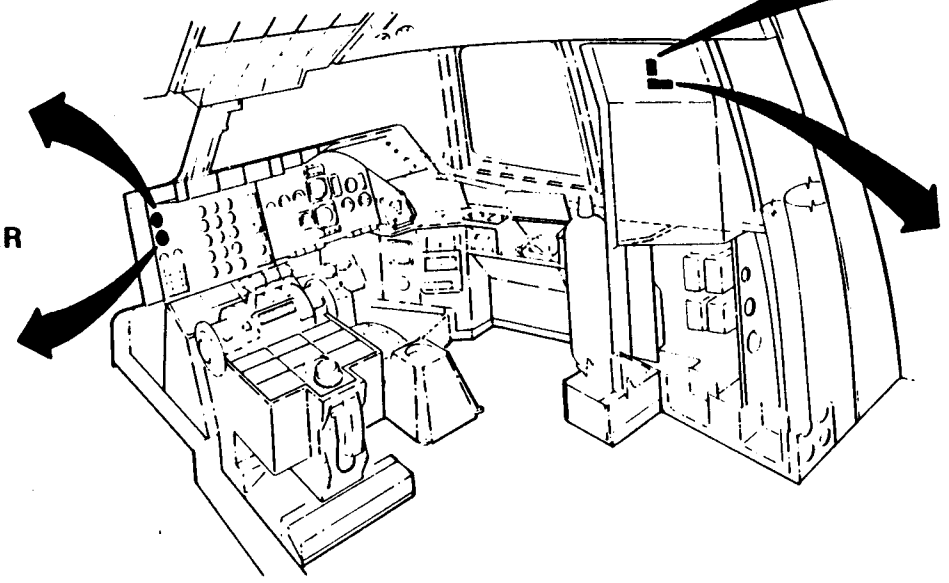
STANDBY PNEUMATIC BAROMETRIC ALTIMETER

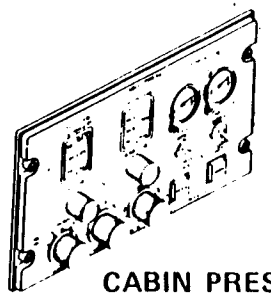


CABIN DIFFERENTIAL PRESSURE INDICATOR



STANDBY PNEUMATIC AIRSPEED INDICATOR





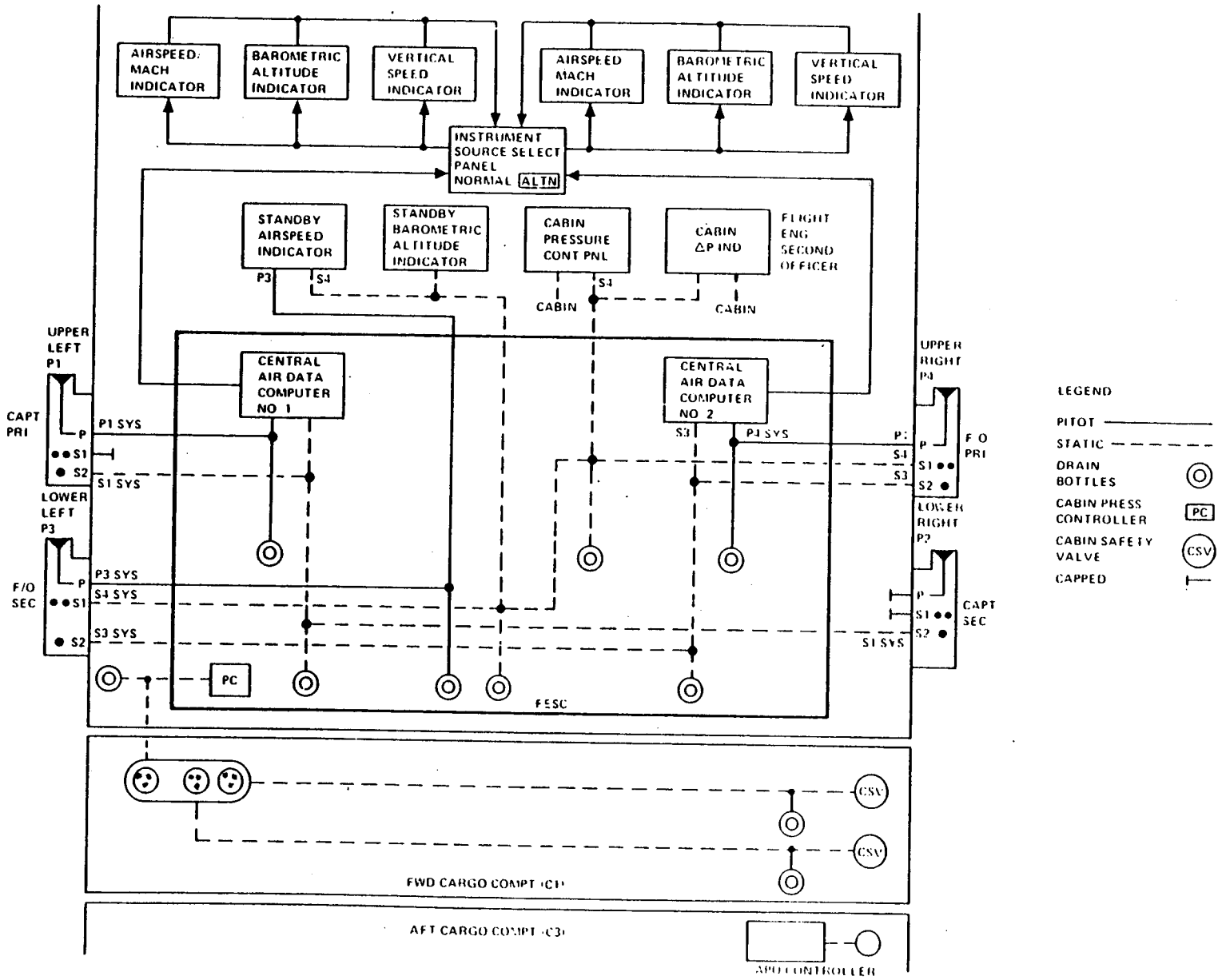
CABIN PRESSURE CONTROL PANEL

PITOT-STATIC SYSTEM COMPONENT LOCATION DIAGRAM

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L-1011
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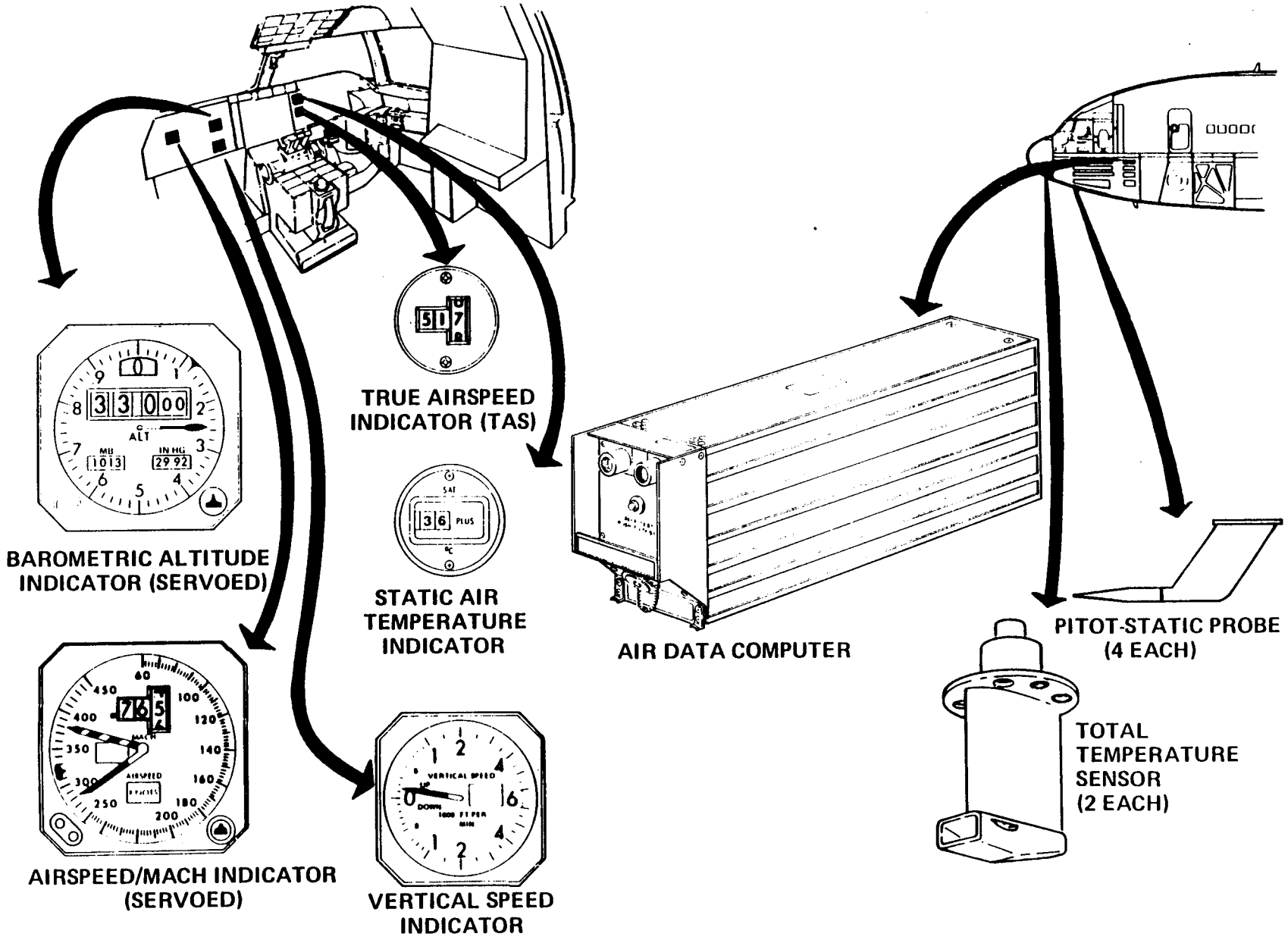
FOR TRAINING PURPOSES ONLY



T-34-13-0009-075

PITOT - STATIC SYSTEM DISTRIBUTION

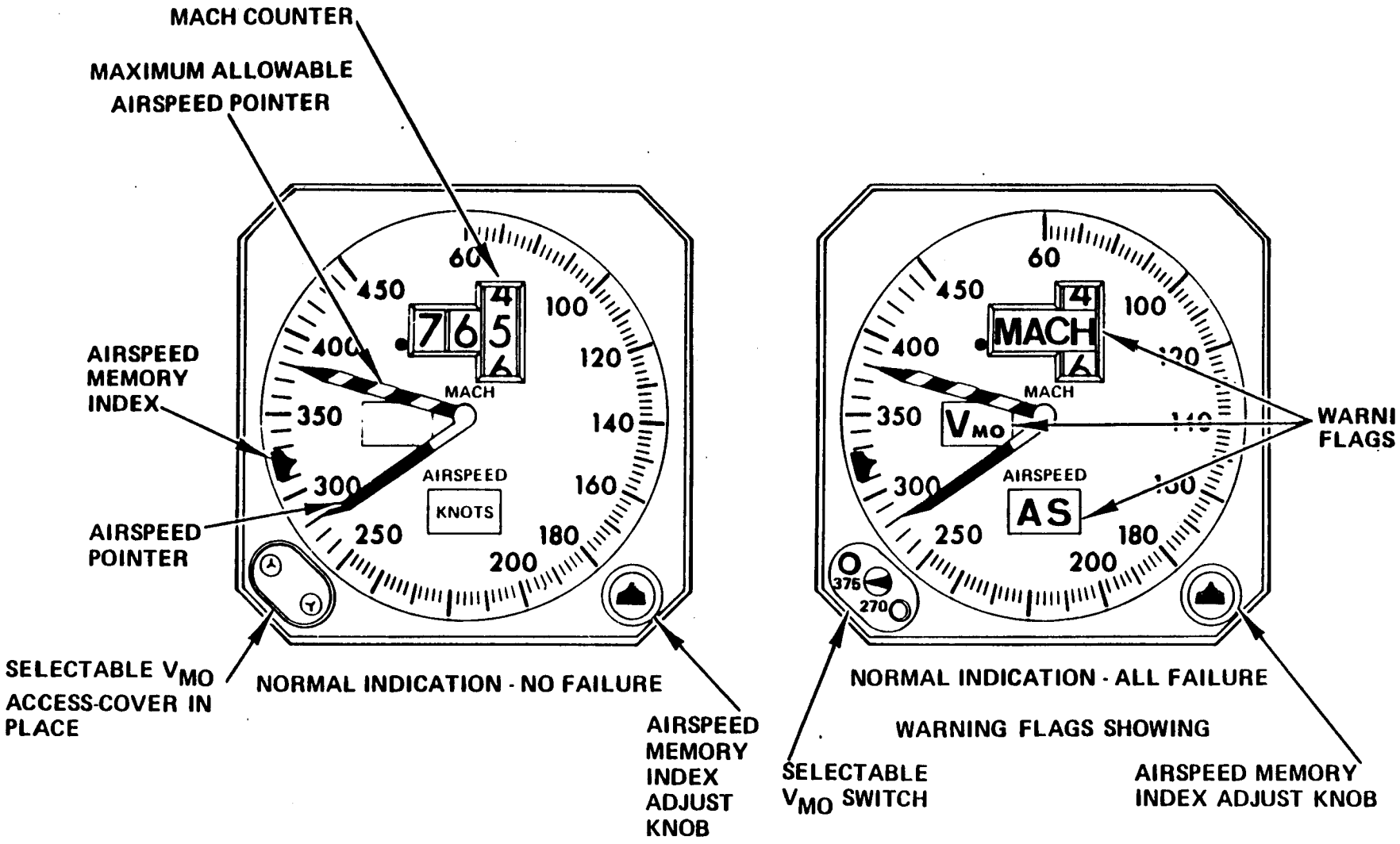
L-1011
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CENTRAL AIR DATA COMPUTER SYSTEM COMPONENT LOCATION DIAGRAM

T-34-14-0005-189

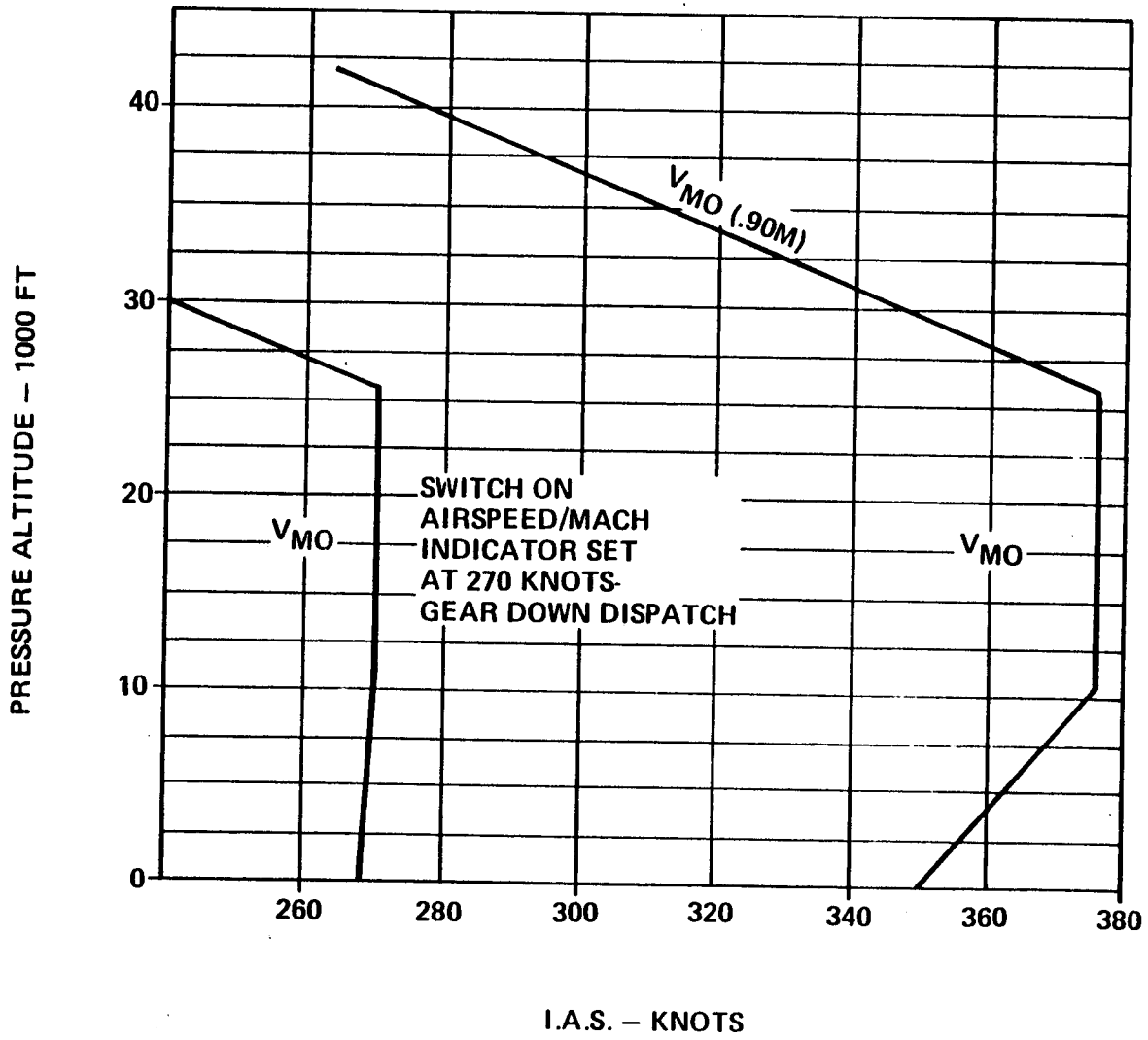
L-1011
10/76



T-34-14-0002-017

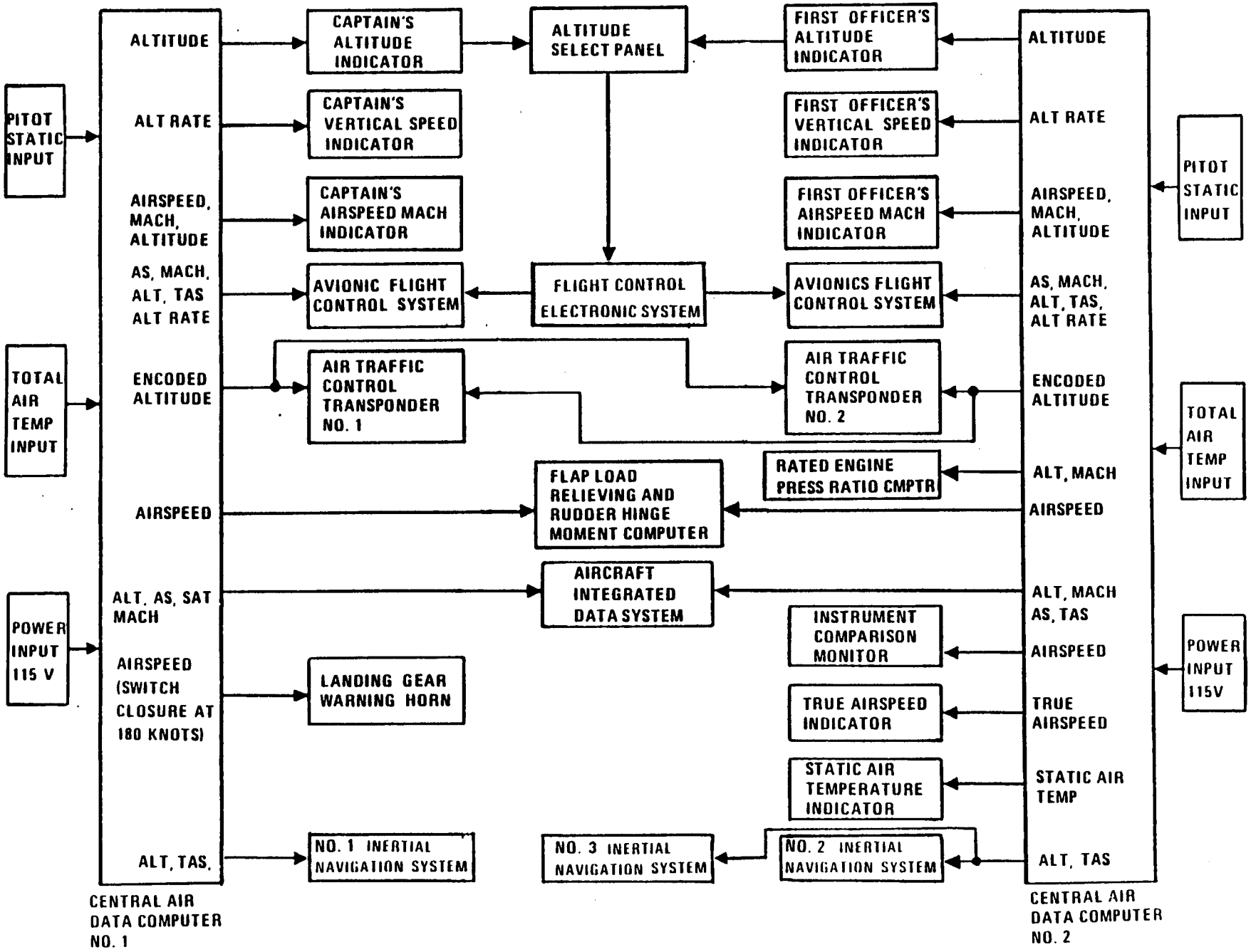
AIRSPEED/MACH INDICATOR

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T-34-14-0001-035

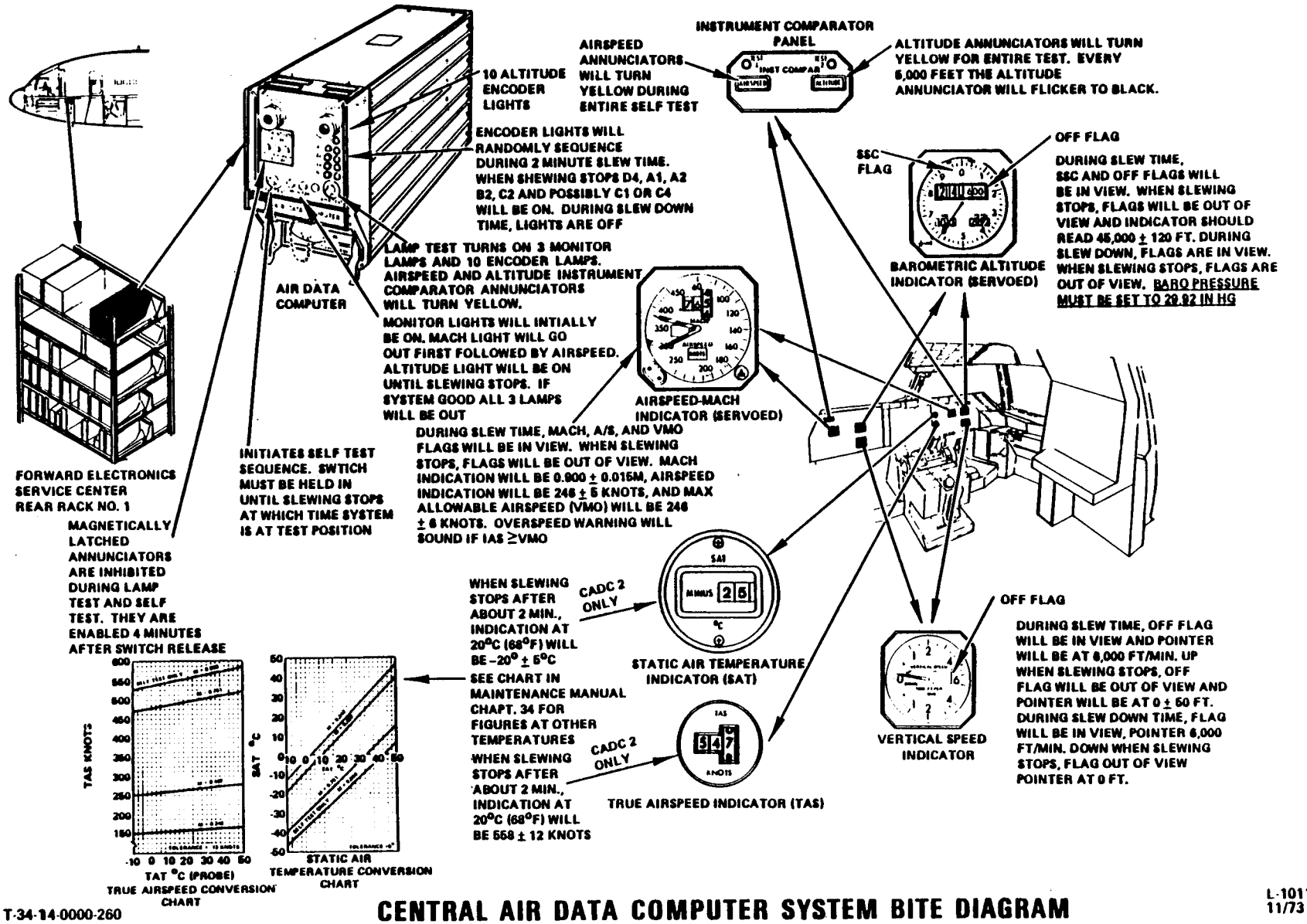
MAXIMUM ALLOWABLE AIRSPEED LIMITS (VMO)



T-34-14-0004-036-TW

CADC INTERFACE BLOCK DIAGRAM

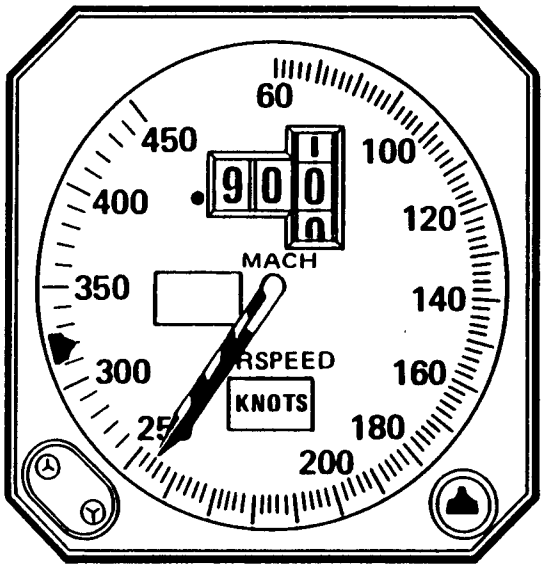
L-1011
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INSTRUMENT COMPARATOR PANEL
AIRSPEED ANNUNCIATORS WILL TURN YELLOW DURING ENTIRE SELF TEST
ALTITUDE ANNUNCIATORS WILL TURN YELLOW FOR ENTIRE TEST. EVERY 5,000 FEET THE ALTITUDE ANNUNCIATOR WILL FLICKER TO BLACK.
10 ALTITUDE ENCODER LIGHTS
ENCODER LIGHTS WILL RANDOMLY SEQUENCE DURING 2 MINUTE SLEW TIME. WHEN SHEWING STOPS D4, A1, A2 B2, C2 AND POSSIBLY C1 OR C4 WILL BE ON. DURING SLEW DOWN TIME, LIGHTS ARE OFF
SSC FLAG
OFF FLAG
DURING SLEW TIME, SSC AND OFF FLAGS WILL BE IN VIEW. WHEN SLEWING STOPS, FLAGS WILL BE OUT OF VIEW AND INDICATOR SHOULD READ 45,000 ± 120 FT. DURING SLEW DOWN, FLAGS ARE IN VIEW. WHEN SLEWING STOPS, FLAGS ARE OUT OF VIEW. BARO PRESSURE MUST BE SET TO 29.92 IN HG
BAROMETRIC ALTITUDE INDICATOR (SERVOED)
AIR DATA COMPUTER
LAMP TEST TURNS ON 3 MONITOR LAMPS AND 10 ENCODER LAMPS. AIRSPEED AND ALTITUDE INSTRUMENT COMPARATOR ANNUNCIATORS WILL TURN YELLOW.
MONITOR LIGHTS WILL INTIALLY BE ON. MACH LIGHT WILL GO OUT FIRST FOLLOWED BY AIRSPEED. ALTITUDE LIGHT WILL BE ON UNTIL SLEWING STOPS. IF SYSTEM GOOD ALL 3 LAMPS WILL BE OUT
AIRSPEED-MACH INDICATOR (SERVOED)
DURING SLEW TIME, MACH, A/S, AND VMO FLAGS WILL BE IN VIEW. WHEN SLEWING STOPS, FLAGS WILL BE OUT OF VIEW. MACH INDICATION WILL BE 0.900 ± 0.015M, AIRSPEED INDICATION WILL BE 246 ± 6 KNOTS, AND MAX ALLOWABLE AIRSPEED (VMO) WILL BE 246 ± 6 KNOTS. OVERSPEED WARNING WILL SOUND IF IAS ≥VMO
INITIATES SELF TEST SEQUENCE. SWTICH MUST BE HELD IN UNTIL SLEWING STOPS AT WHICH TIME SYSTEM IS AT TEST POSITION
FORWARD ELECTRONICS SERVICE CENTER REAR RACK NO. 1
MAGNETICALLY LATCHED ANNUNCIATORS ARE INHIBITED DURING LAMP TEST AND SELF TEST. THEY ARE ENABLED 4 MINUTES AFTER SWITCH RELEASE
WHEN SLEWING STOPS AFTER ABOUT 2 MIN., INDICATION AT 20°C (68°F) WILL BE −20° ± 5°C
CADC 2 ONLY
STATIC AIR TEMPERATURE INDICATOR (SAT)
SEE CHART IN MAINTENANCE MANUAL CHAPT. 34 FOR FIGURES AT OTHER TEMPERATURES
WHEN SLEWING STOPS AFTER ABOUT 2 MIN., INDICATION AT 20°C (68°F) WILL BE 558 ± 12 KNOTS
CADC 2 ONLY
TRUE AIRSPEED INDICATOR (TAS)
OFF FLAG
DURING SLEW TIME, OFF FLAG WILL BE IN VIEW AND POINTER WILL BE AT 8,000 FT/MIN. UP WHEN SLEWING STOPS, OFF FLAG WILL BE OUT OF VIEW AND POINTER WILL BE AT 0 ± 50 FT. DURING SLEW DOWN TIME, FLAG WILL BE IN VIEW, POINTER 8,000 FT/MIN. DOWN WHEN SLEWING STOPS, FLAG OUT OF VIEW POINTER AT 0 FT.
VERTICAL SPEED INDICATOR
TAS KNOTS
TAT °C (PROBE)
TRUE AIRSPEED CONVERSION CHART
SAT °C
STATIC AIR TEMPERATURE CONVERSION CHART
T-34-14-0000-260

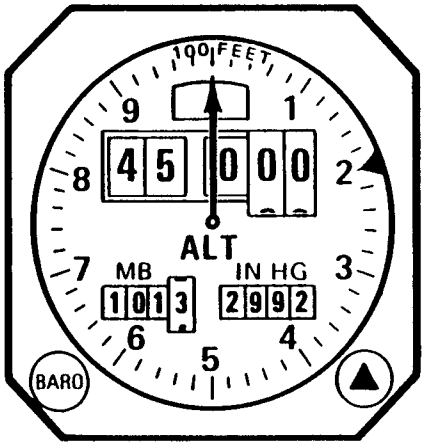
T-34-14-0000-260

CENTRAL AIR DATA COMPUTER SYSTEM BITE DIAGRAM

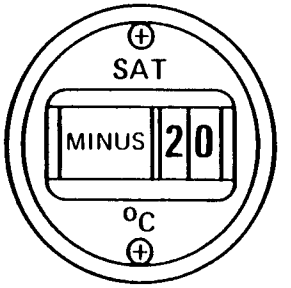
L-1011
11/73



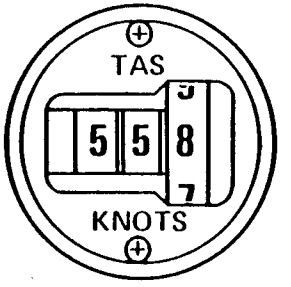
AIRSPEED/MACH INDICATOR



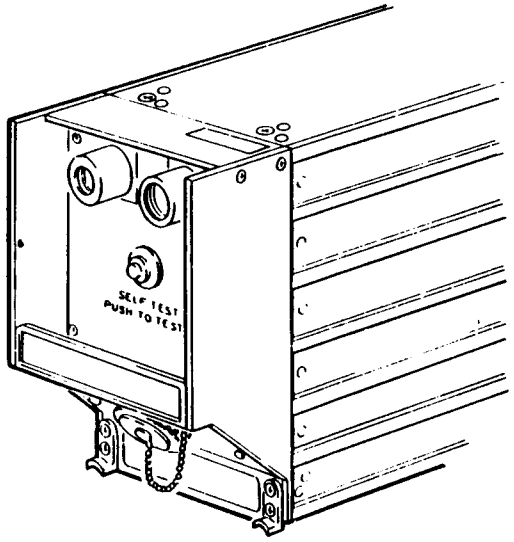
BAROMETRIC ALTITUDE INDICATOR



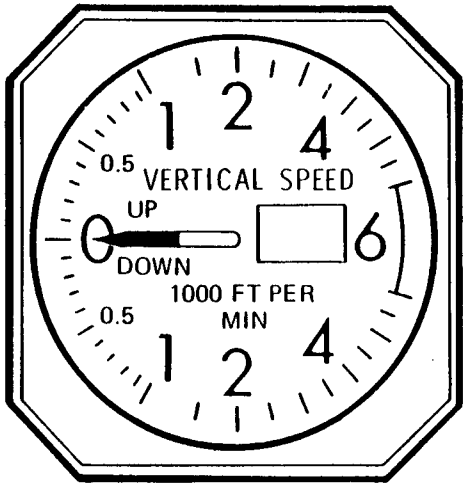
SAT INDICATOR



TAS INDICATOR



CADC

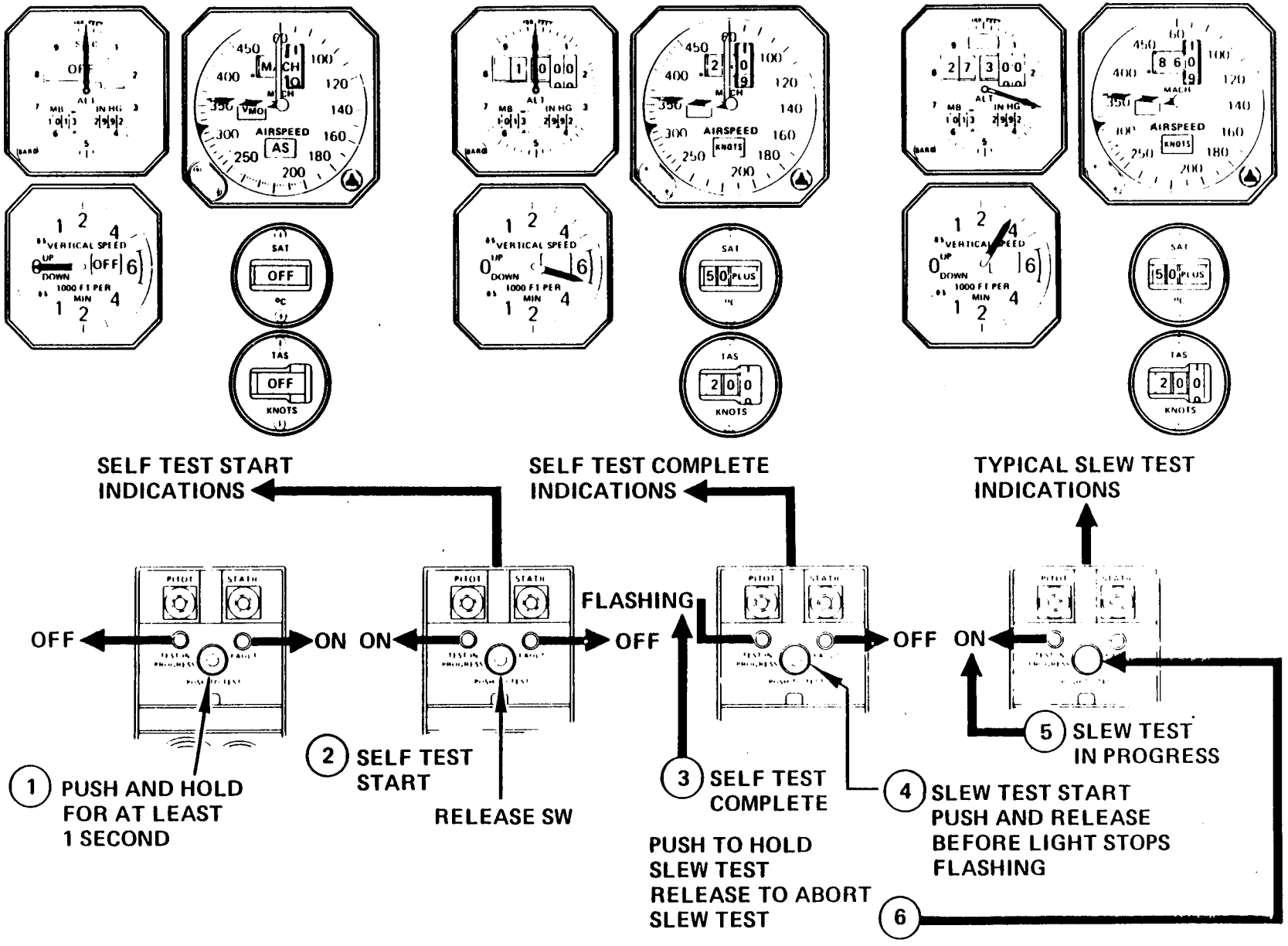


VERTICAL SPEED INDICATOR

T-34-14-0001-260

CADC SELF-TEST INDICATIONS

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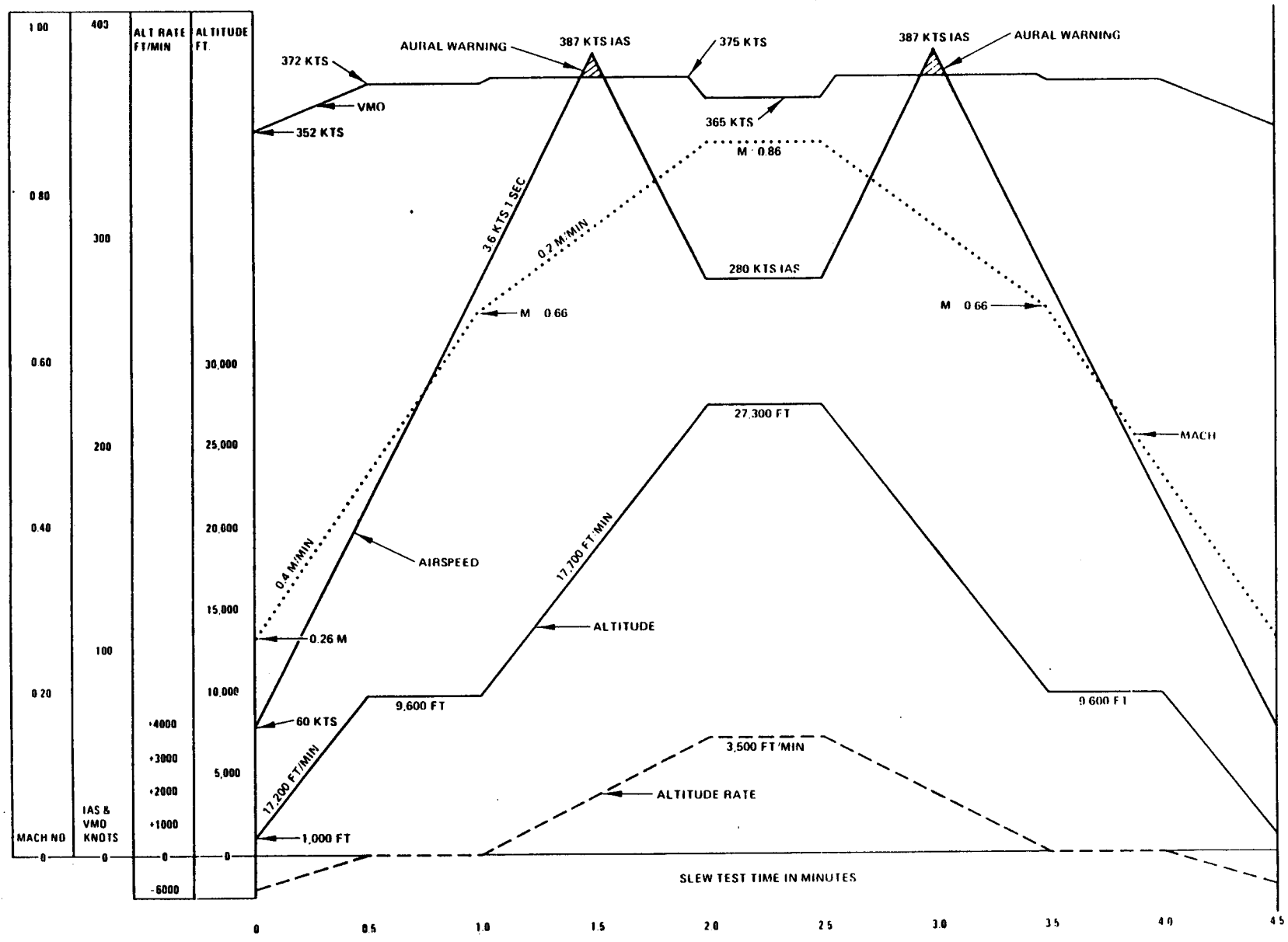


T-34-14-0002-329

DIGITAL ADC TESTING (SHEET 1)

L-1011

FOR TRAINING PURPOSES ONLY

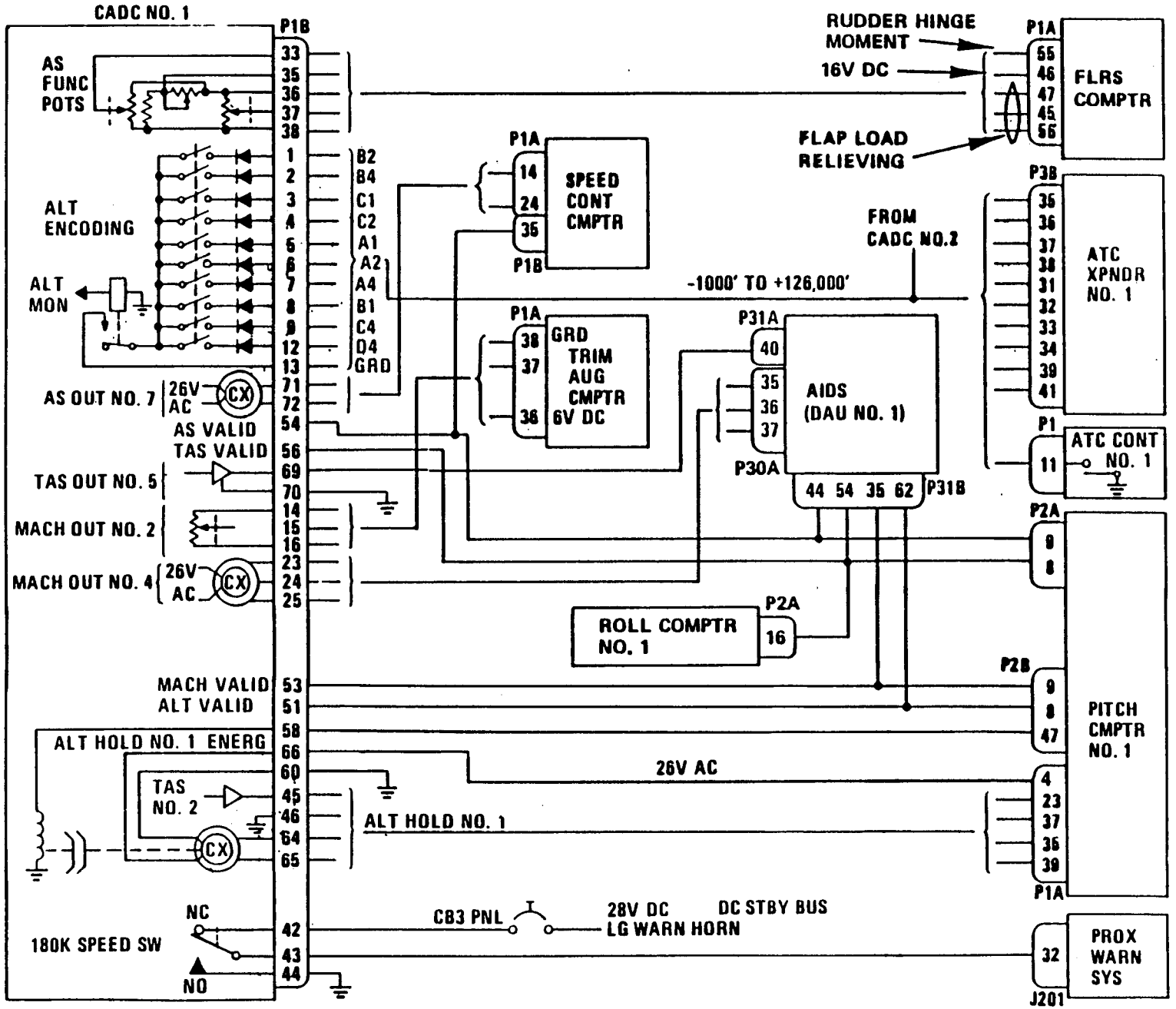


T-34-14-0000-330

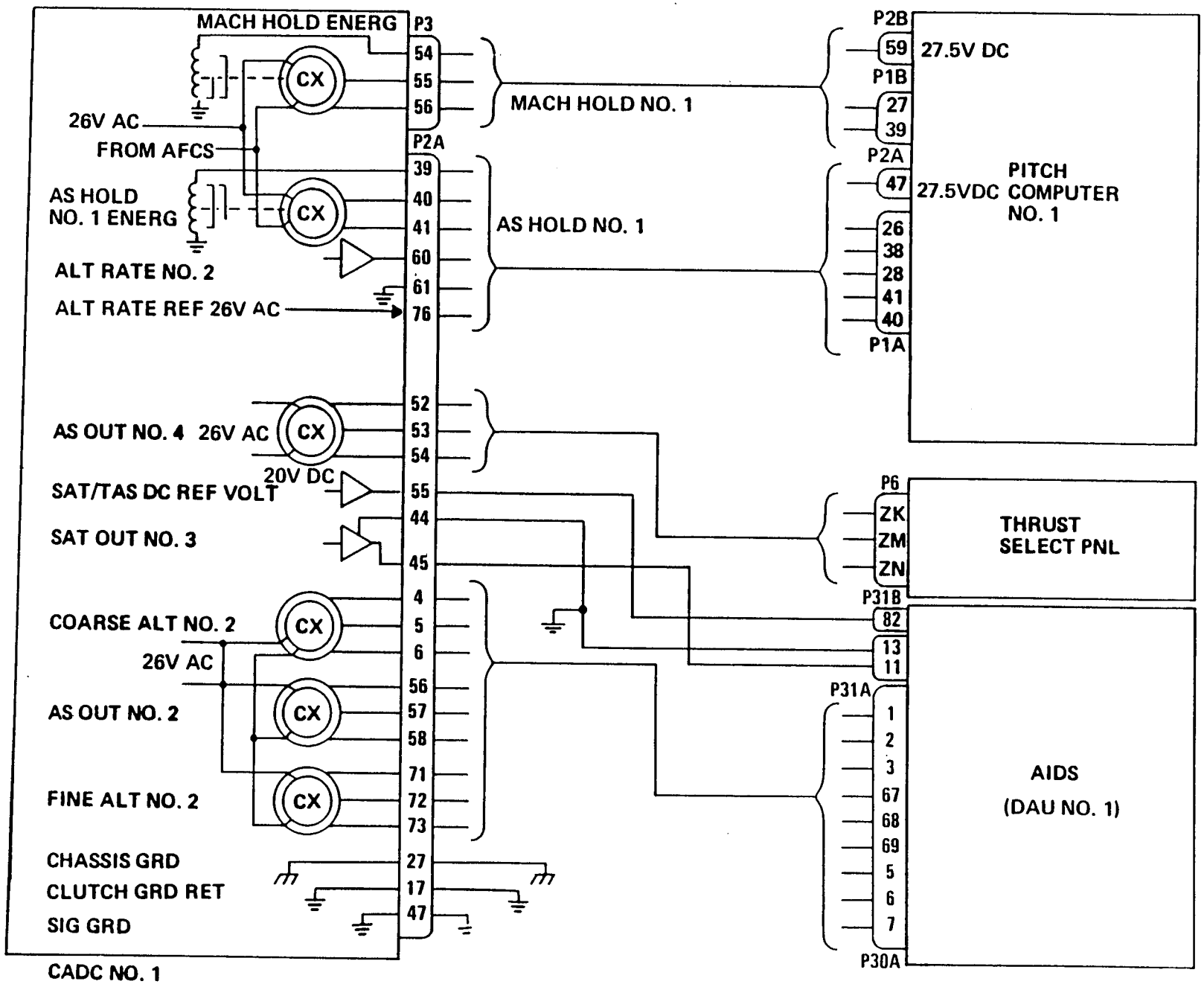
DIGITAL ADC TESTING (SHEET 2)

L-1011

FOR TRAINING PURPOSES ONLY



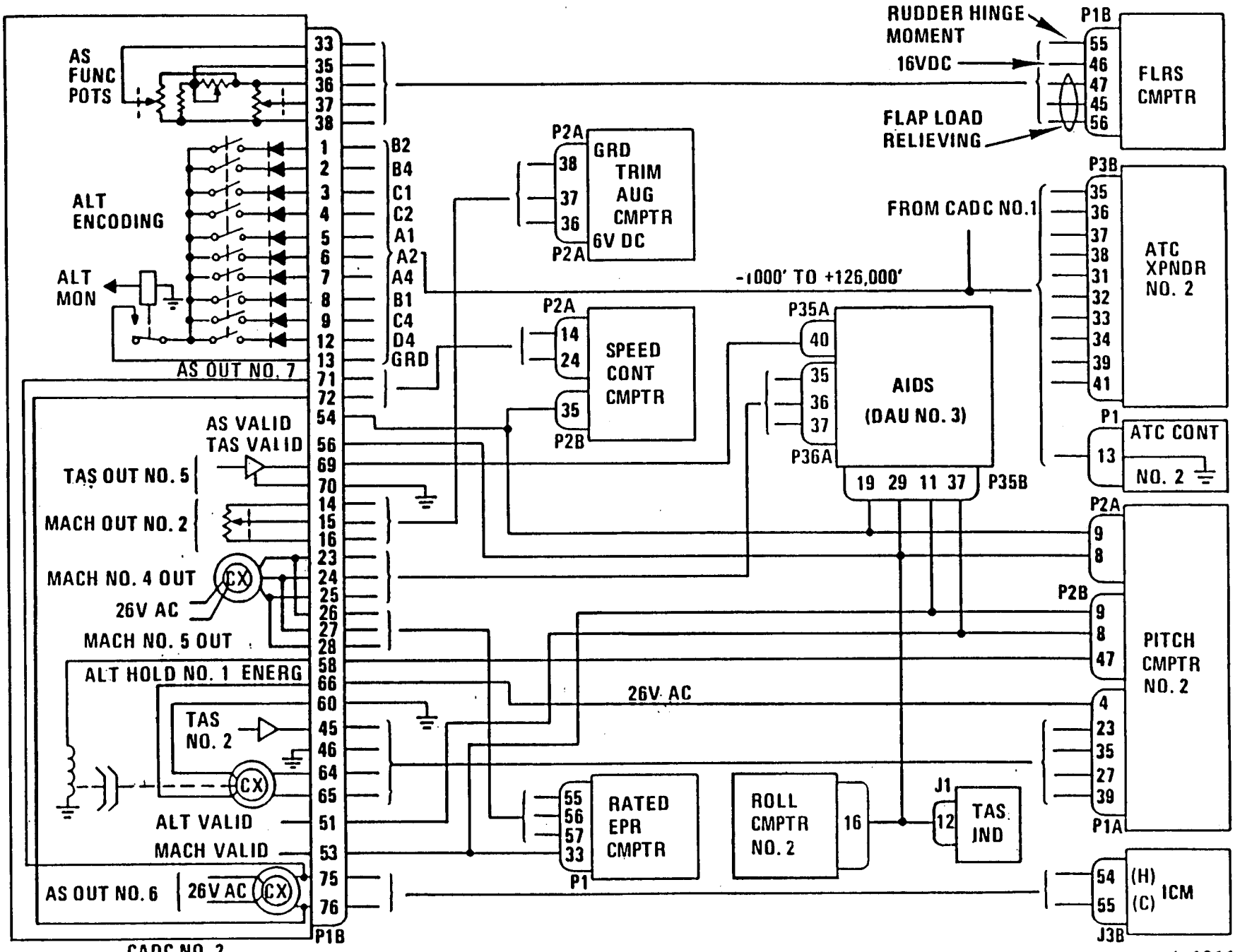
CADC NO. 1 INTERFACE SHEET 1



T-34-14-0002-123

CADC NO. 1 INTERFACE – SHEET 2

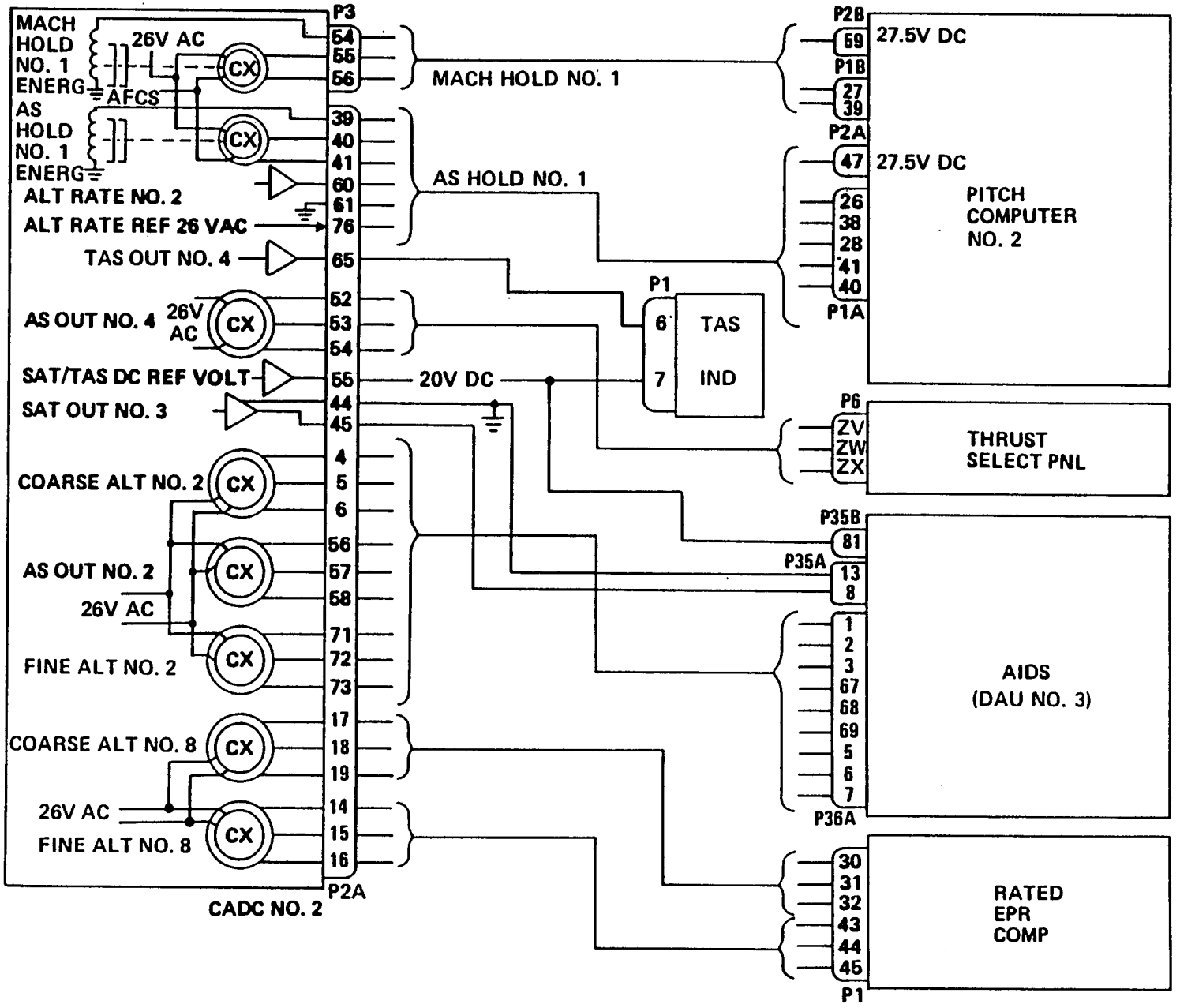
L-1011
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CADC NO. 2 INTERFACE - SHEET 1

T-34-14-0007-122

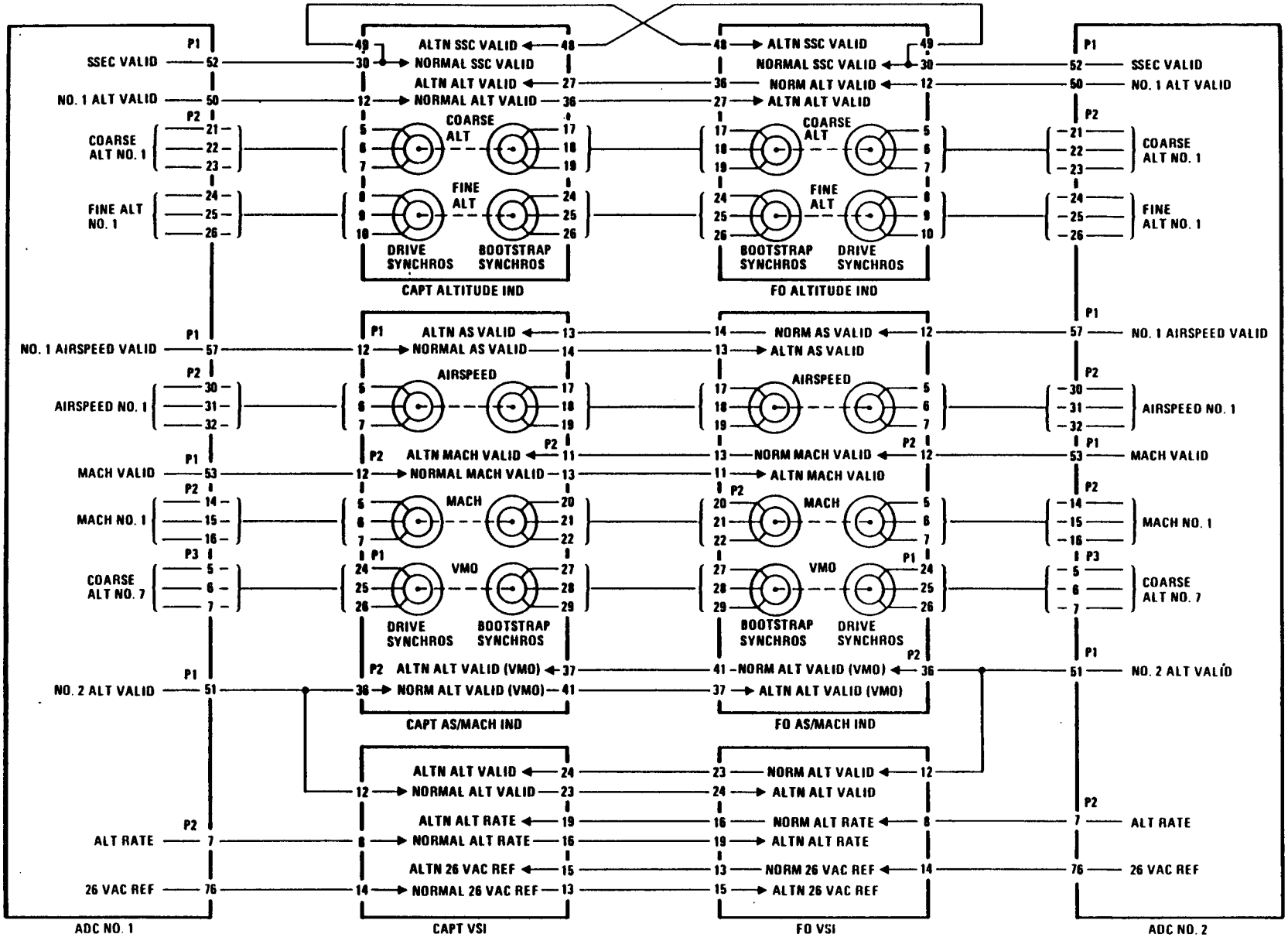
L-1011
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T-34-14-0004-121

CADC NO. 2 INTERFACE - SHEET 2

L-1011
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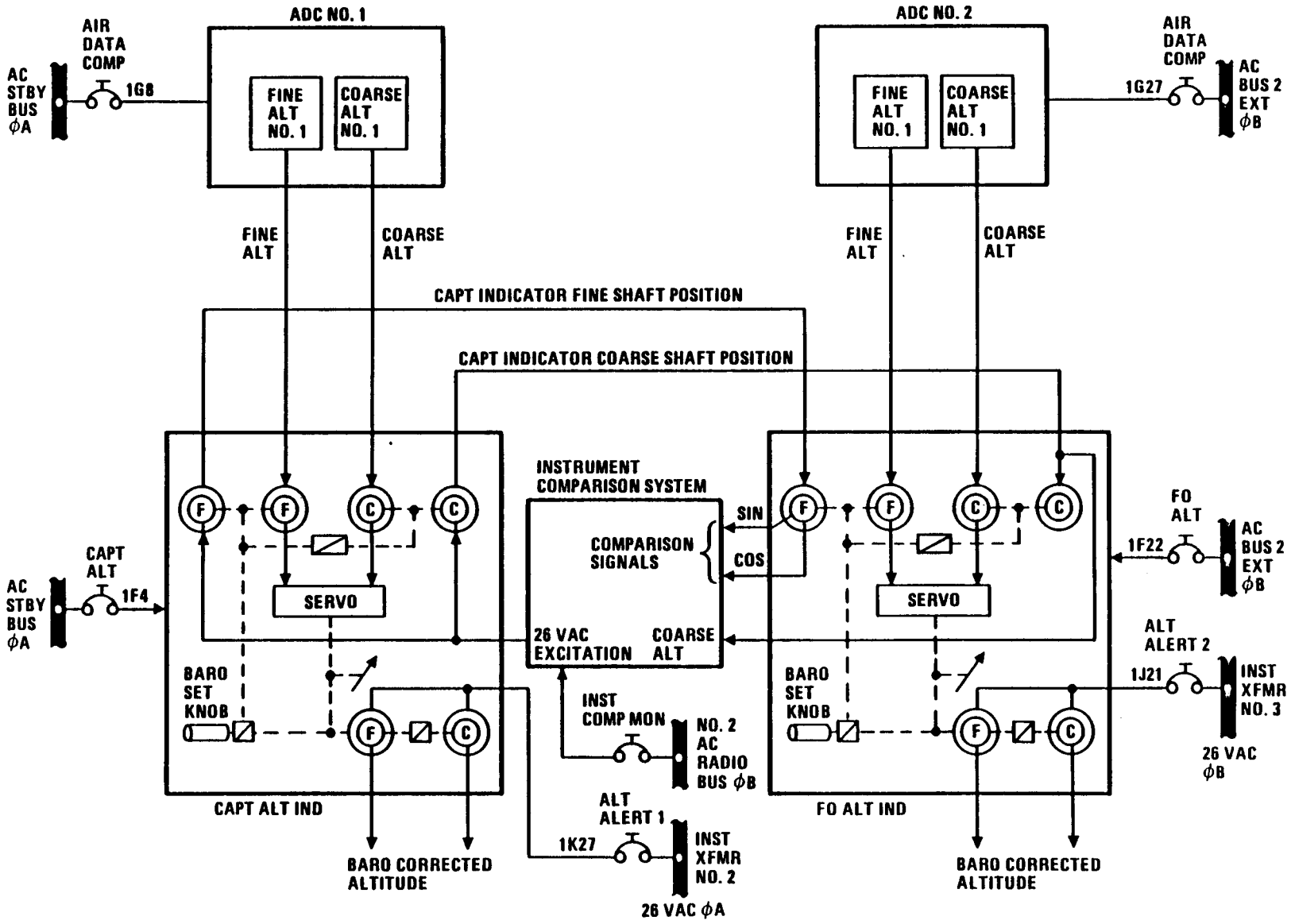


T-34-14-0003-126

ADC-INSTRUMENT INTERFACE

L-1011

FOR TRAINING PURPOSES ONLY

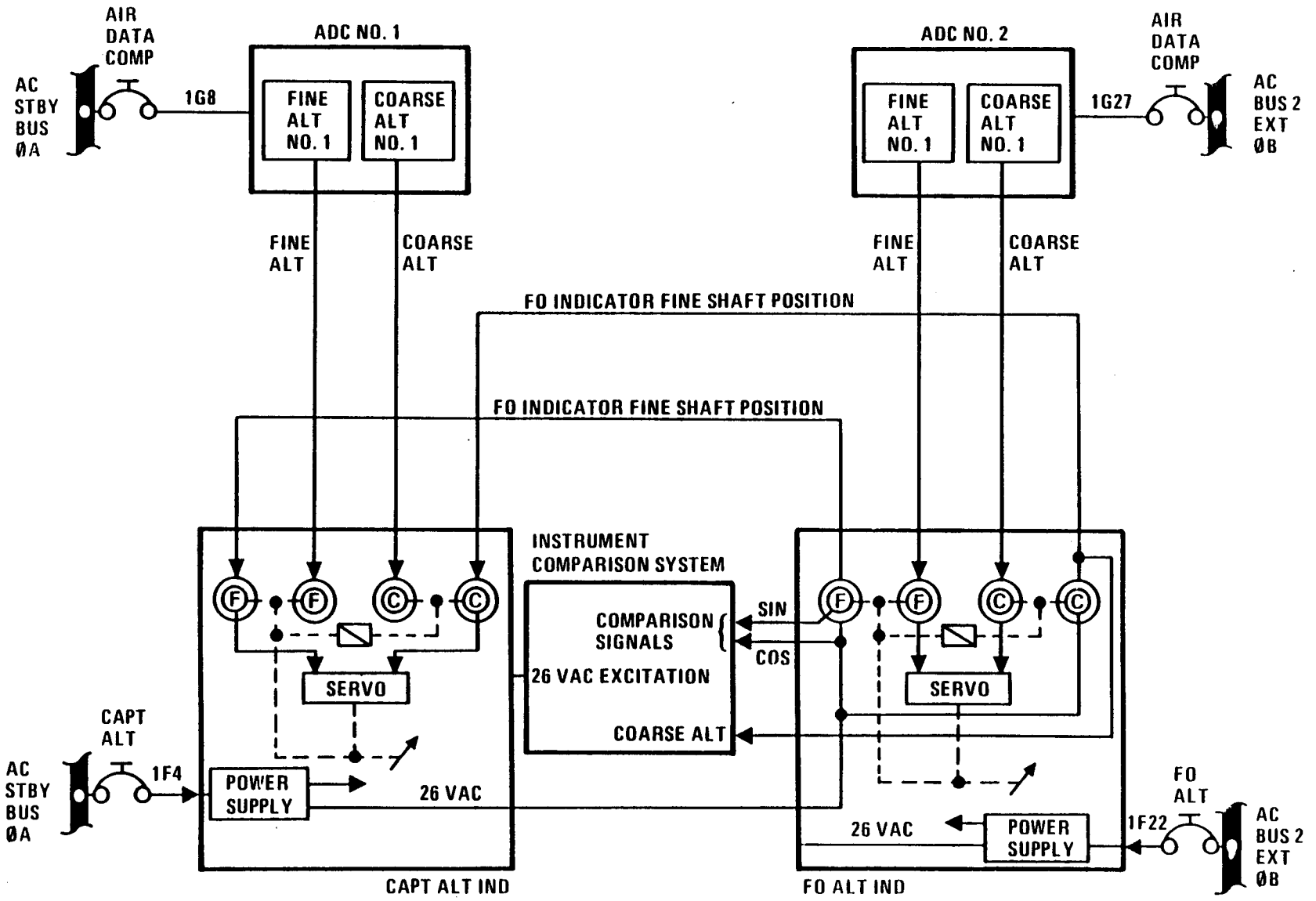


T-34-14-0001-271

ALTITUDE INDICATORS NORMAL OPERATION

L-1011
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FOR TRAINING PURPOSES ONLY

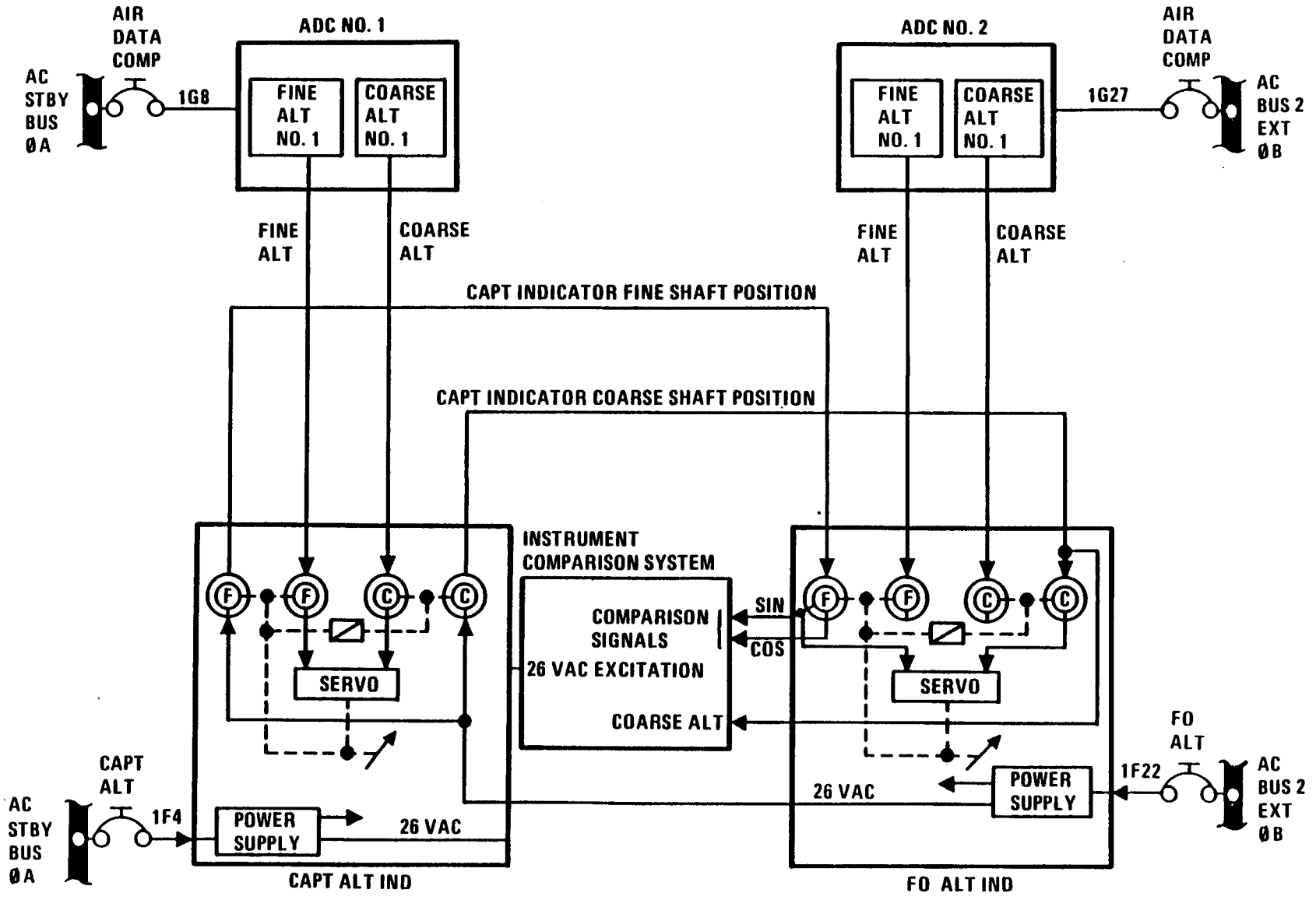


T-34-14-0001-272

ALTITUDE INDICATORS-CAPT ALTERNATE SELECTION

FOR TRAINING PURPOSES ONLY

L-1011
10/78

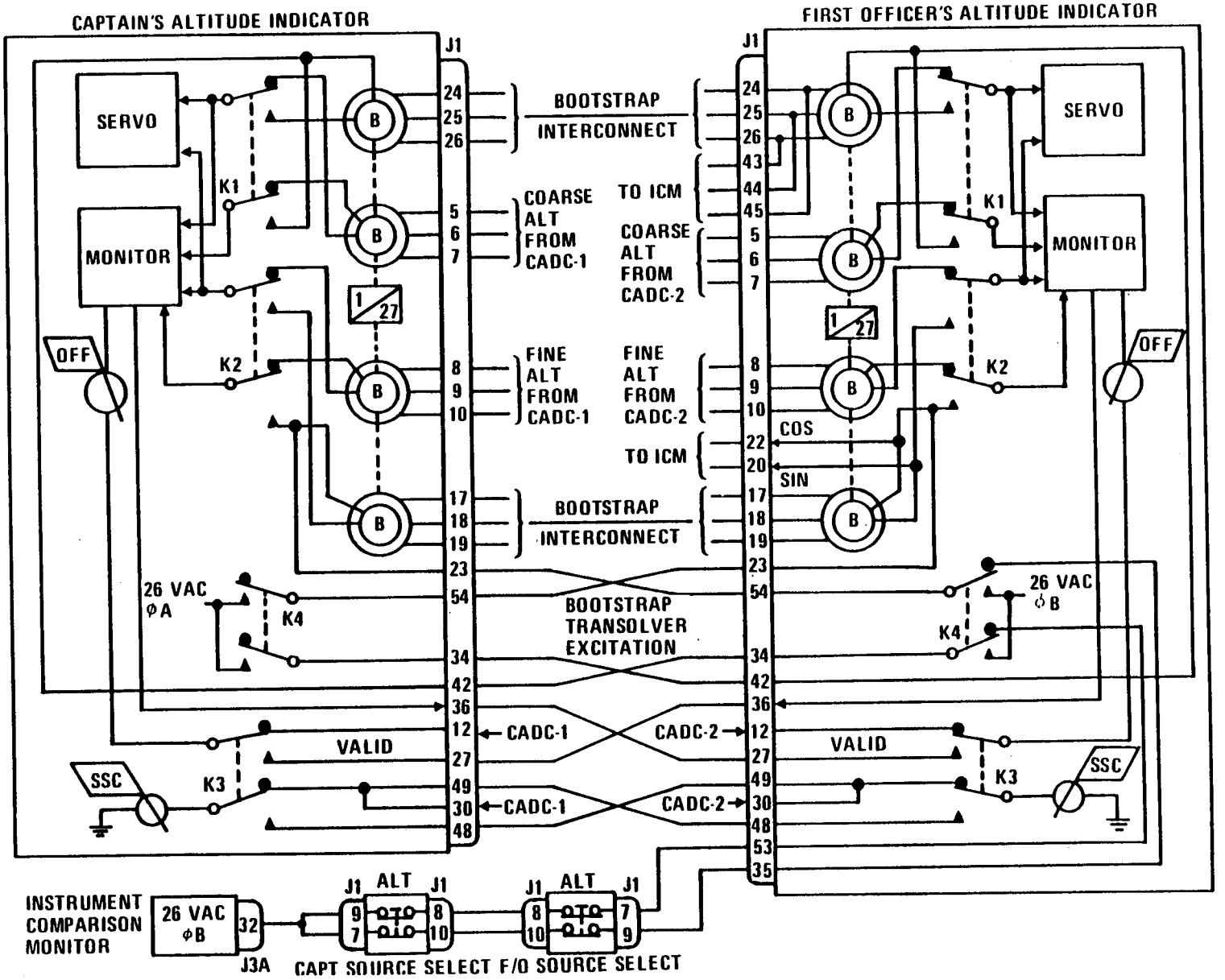


T-34-14-0001-273

ALTITUDE INDICATORS-F/O ALTERNATE SELECTION

FOR TRAINING PURPOSES ONLY

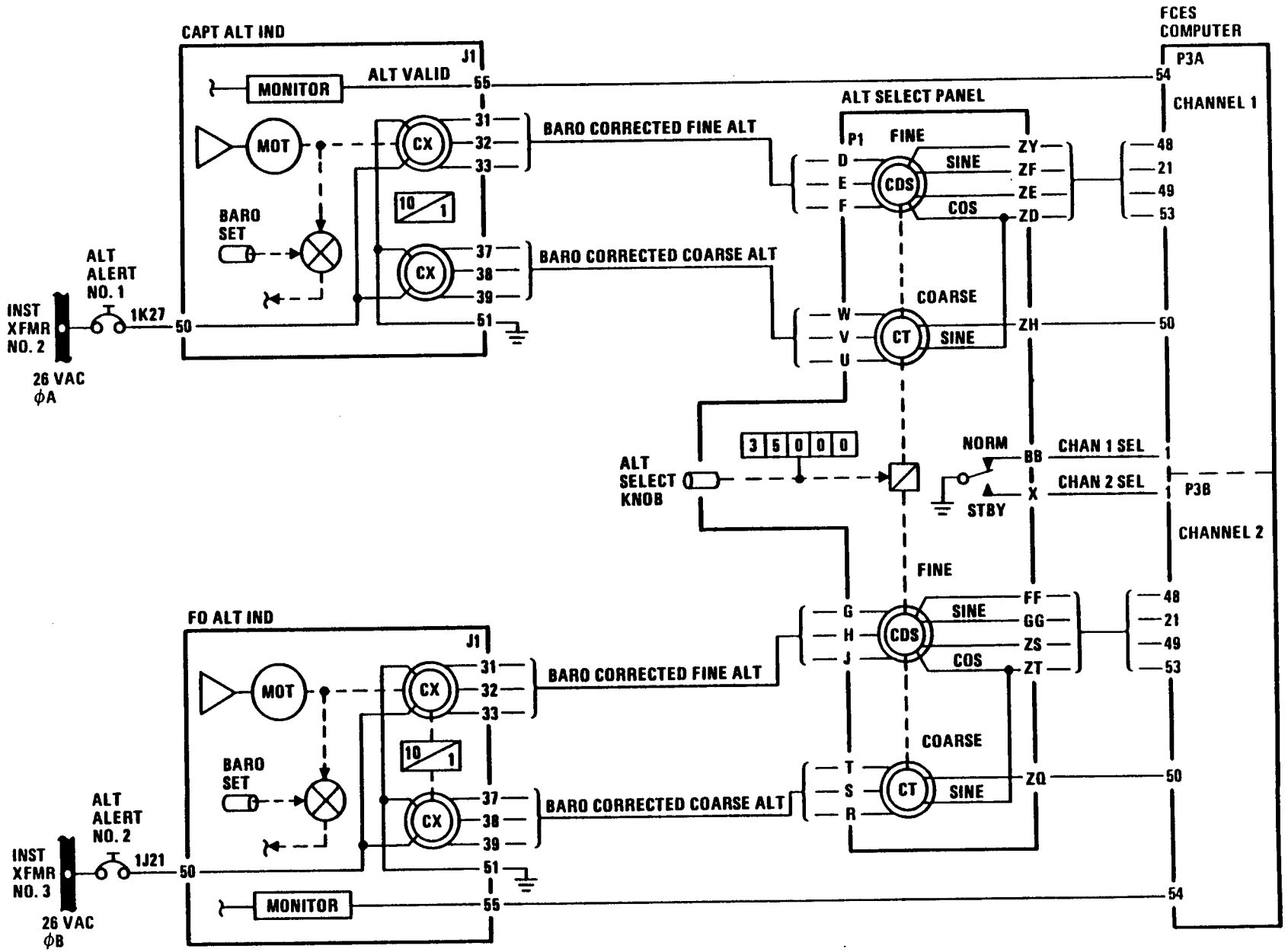
L-1011
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T-34-14-0004-016

ALTITUDE BOOTSTRAP FUNCTIONAL DIAGRAM

L-1011
3/74

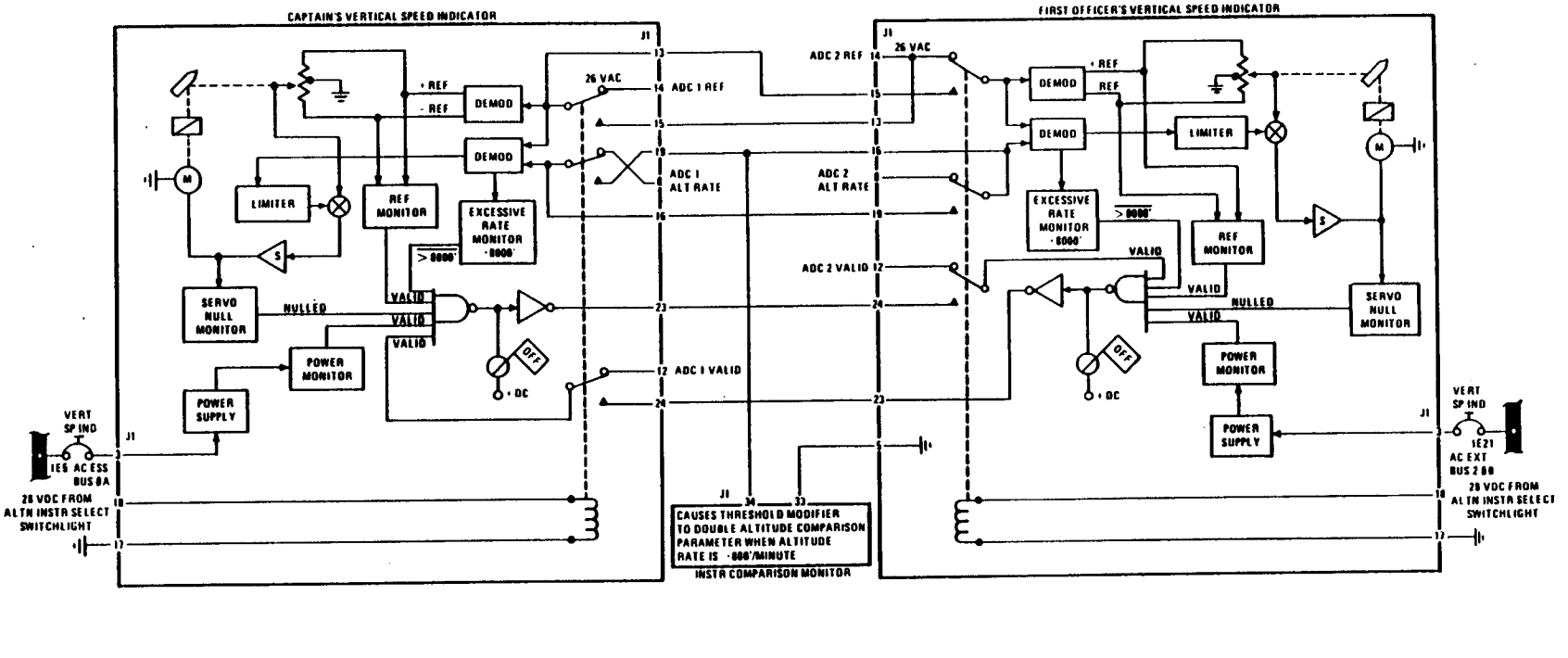


T-34-14-0009-119

BARO CORRECTED ALTITUDE DISTRIBUTION

L-1011
9/78

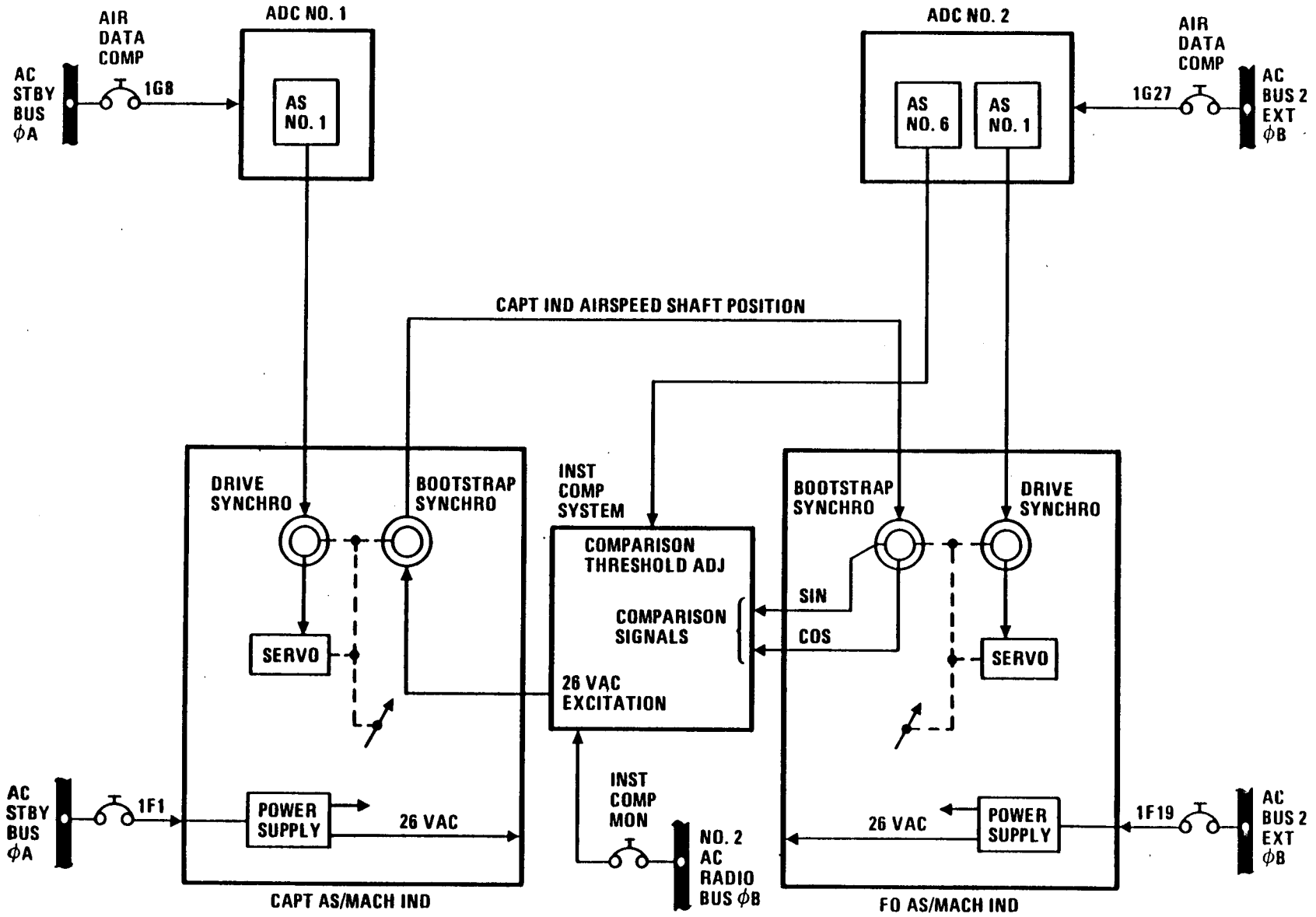
FOR TRAINING PURPOSES ONLY



T 34 14 0006 170

VERTICAL SPEED INDICATOR FUNCTIONAL DIAGRAM

L 1011

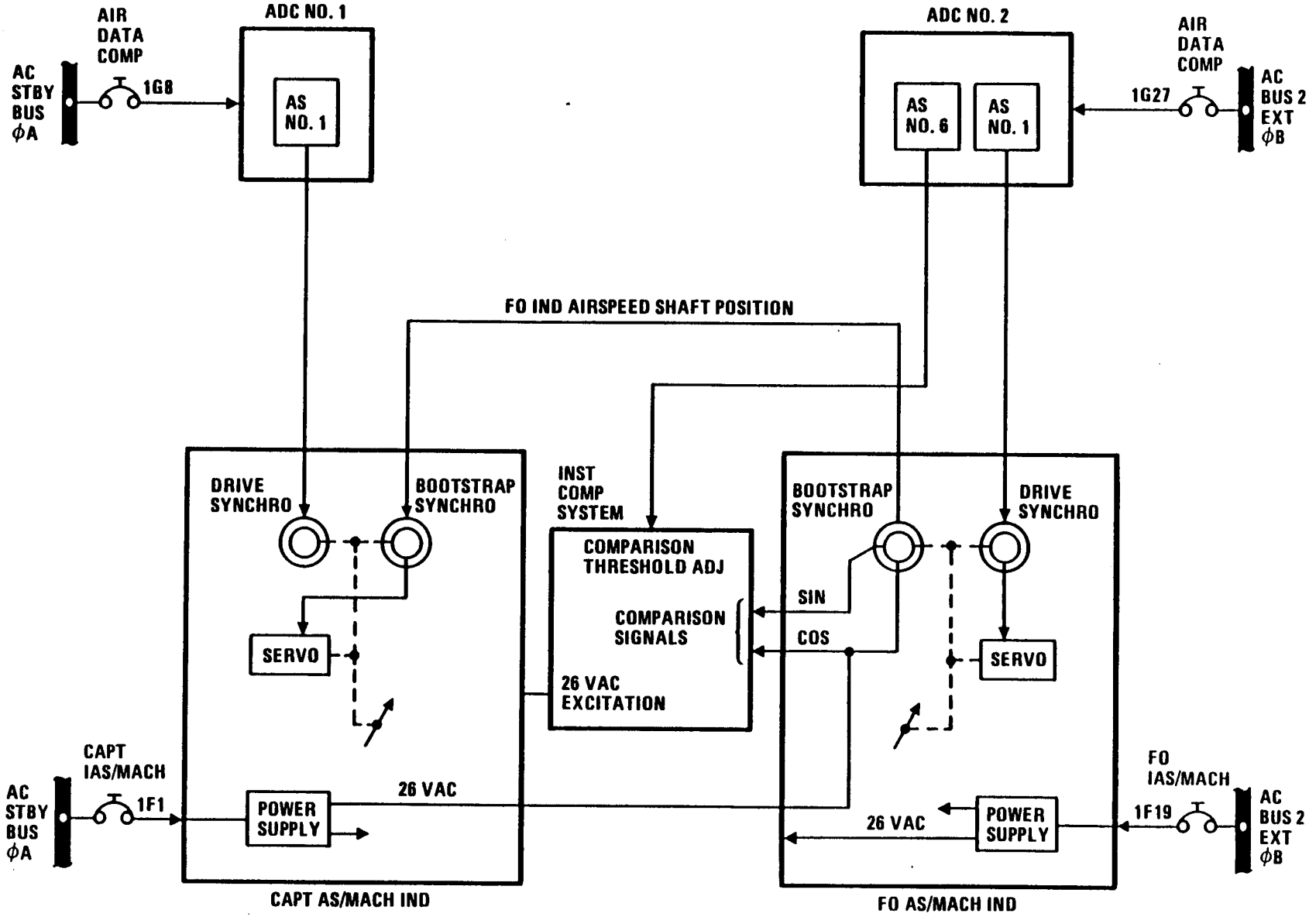


T-34-14-0001-270

AS/MACH INDICATORS—NORMAL OPERATION

L-1011
10/78

FOR TRAINING PURPOSES ONLY

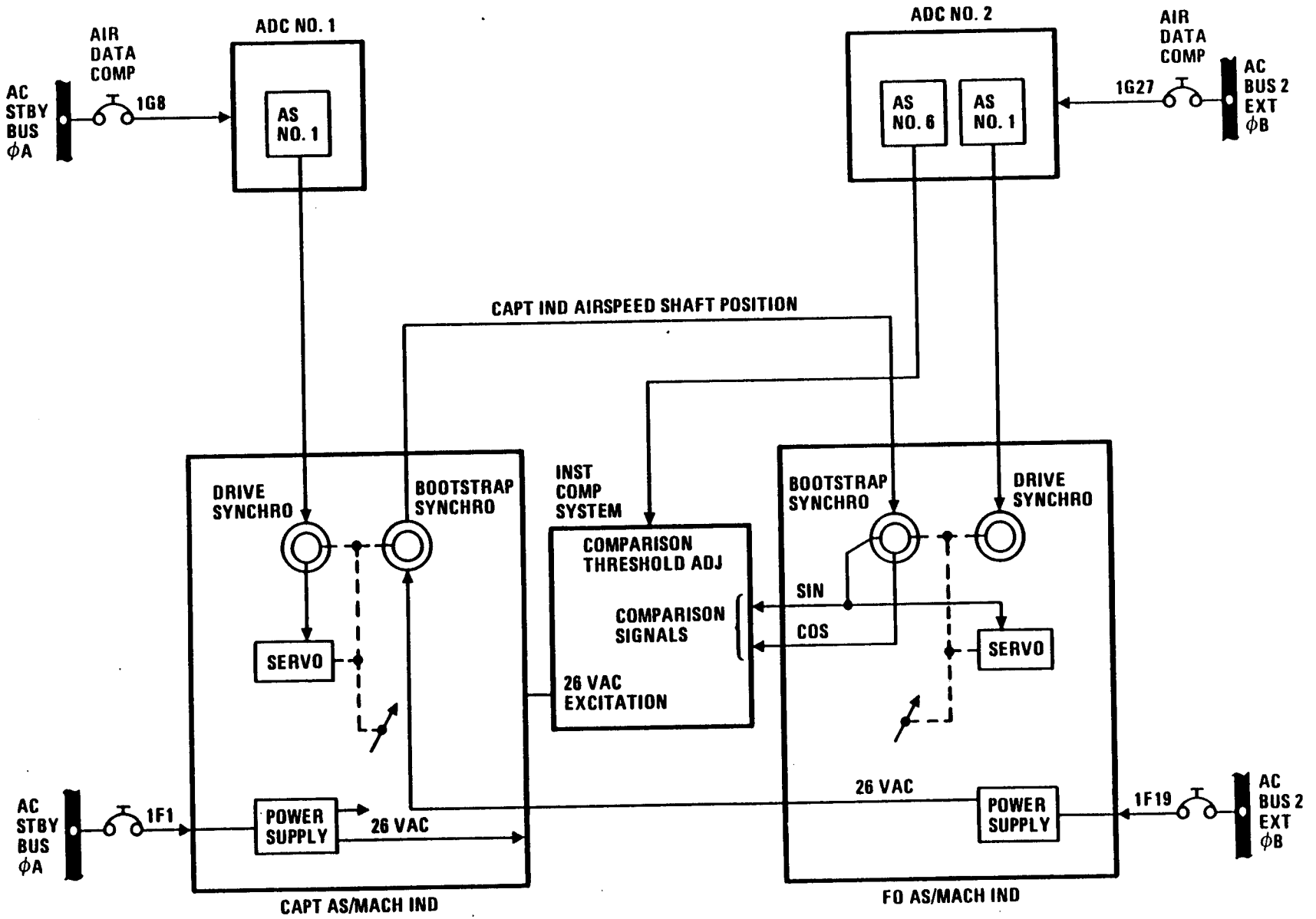


T-34-14-0001-269

AS/MACH INDICATORS—CAPT ALTERNATE SELECTION

L-1011
10/78

FOR TRAINING PURPOSES ONLY

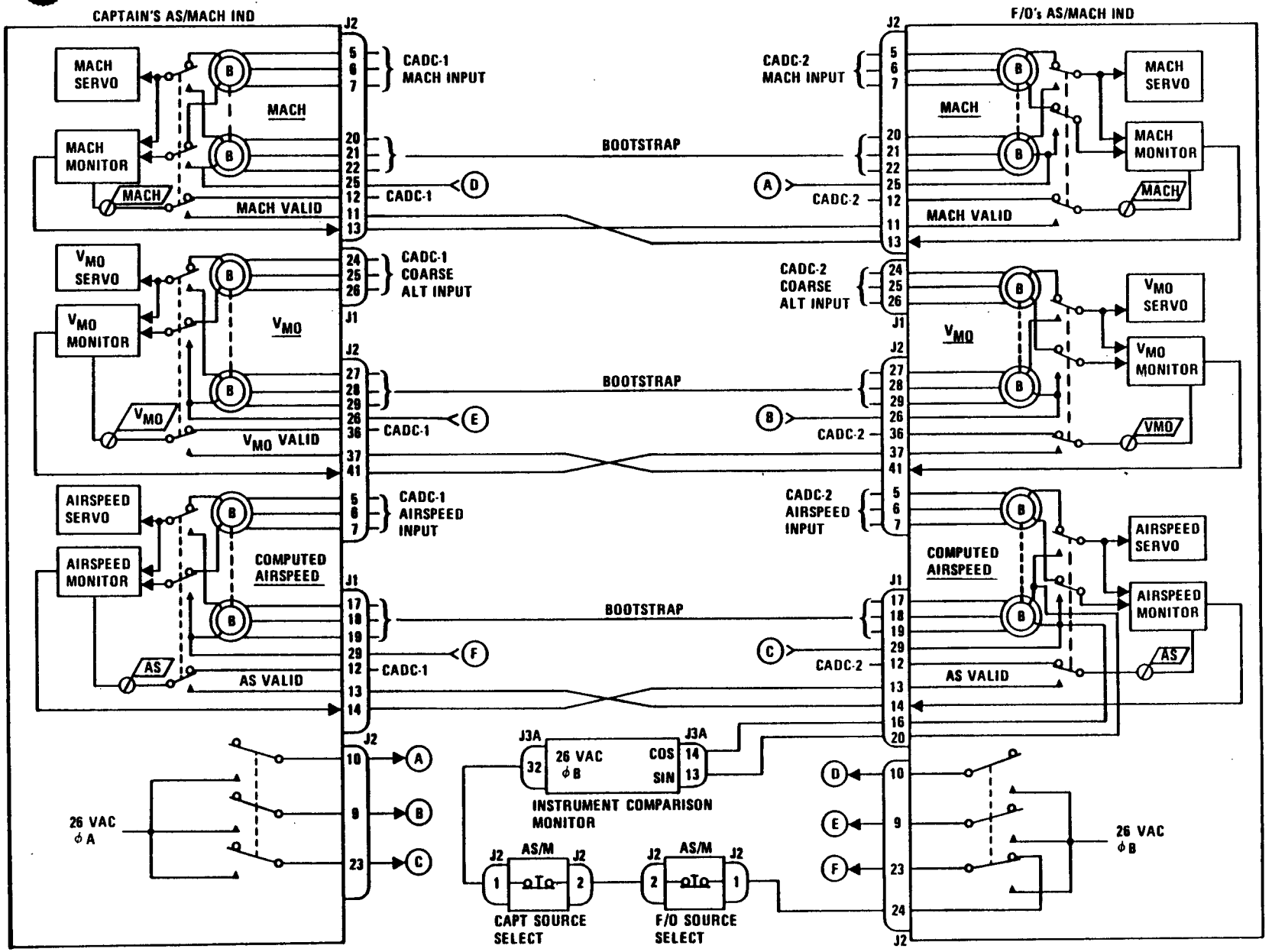


T-34-14-0001-268

AS/MACH INDICATORS—F/O ALTERNATE SELECTION

L-1011
10/78

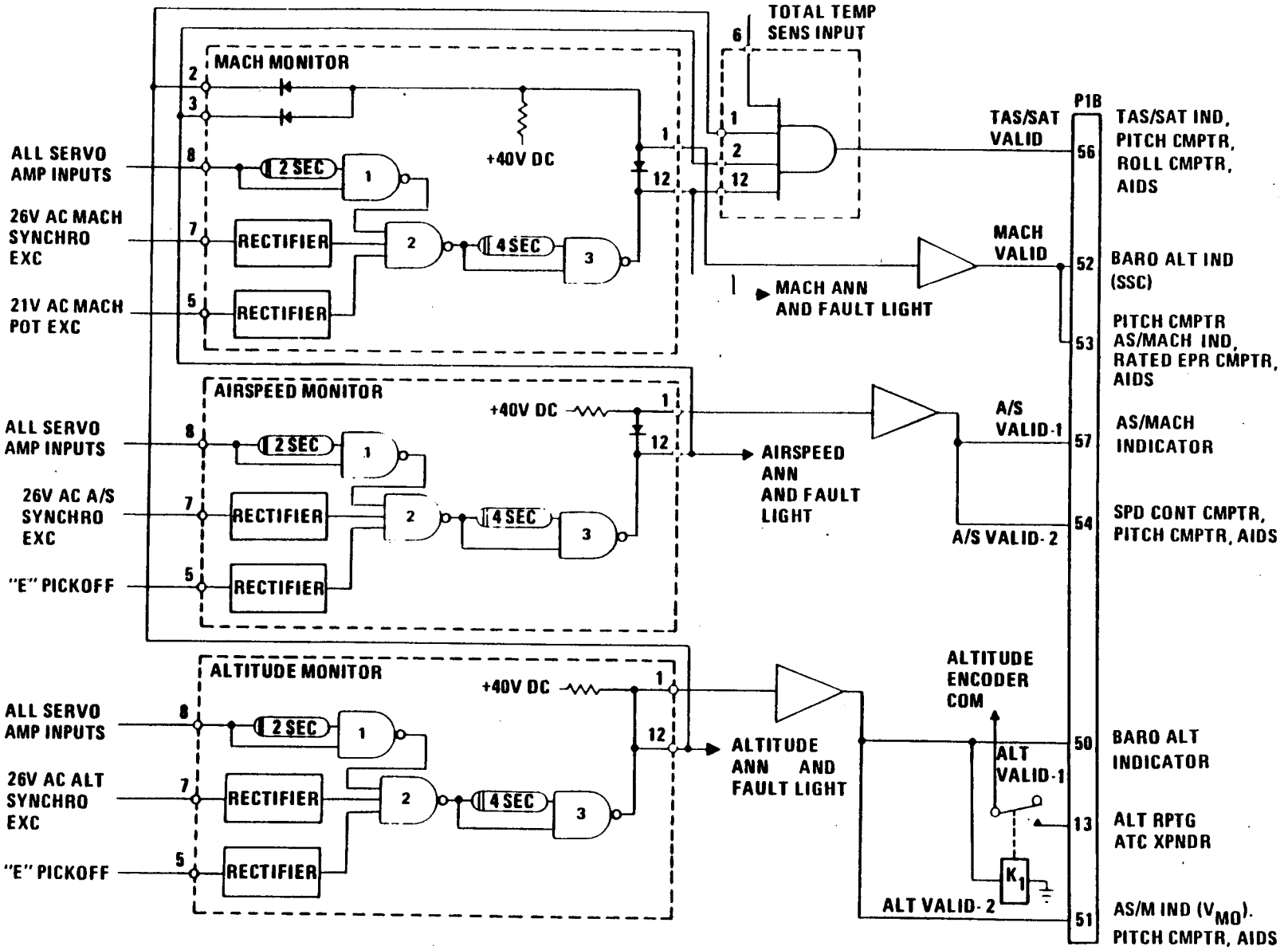
FOR TRAINING PURPOSES ONLY



T-34-14-0004-140

AS/MACH BOOTSTRAP FUNCTIONAL DIAGRAM

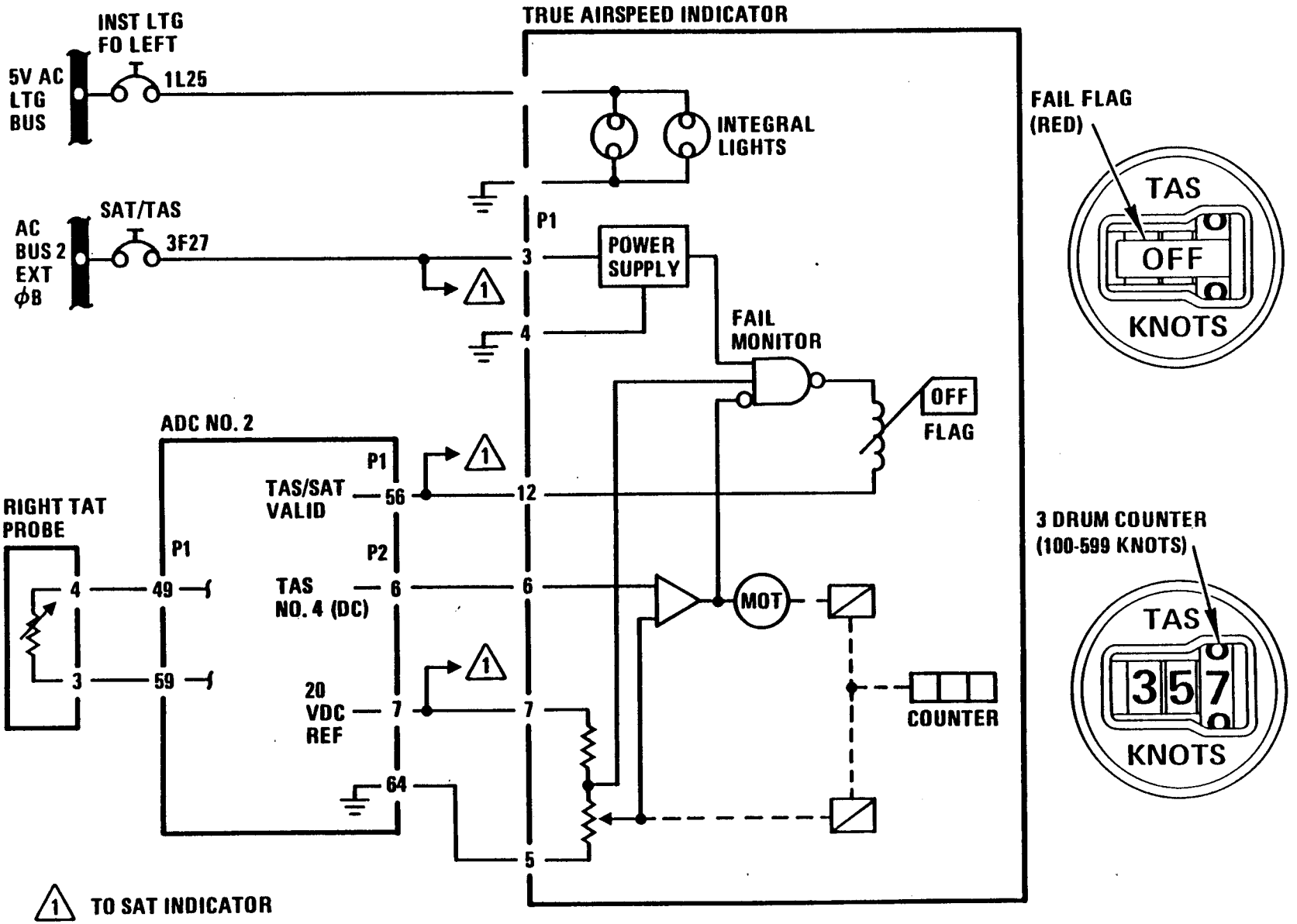
L-1011
3/74



CENTRAL AIR DATA COMPUTER FUNCTIONAL DIAGRAM (MONITOR CIRCUITS)

T-34-14-0004-174

L-1011
10/73

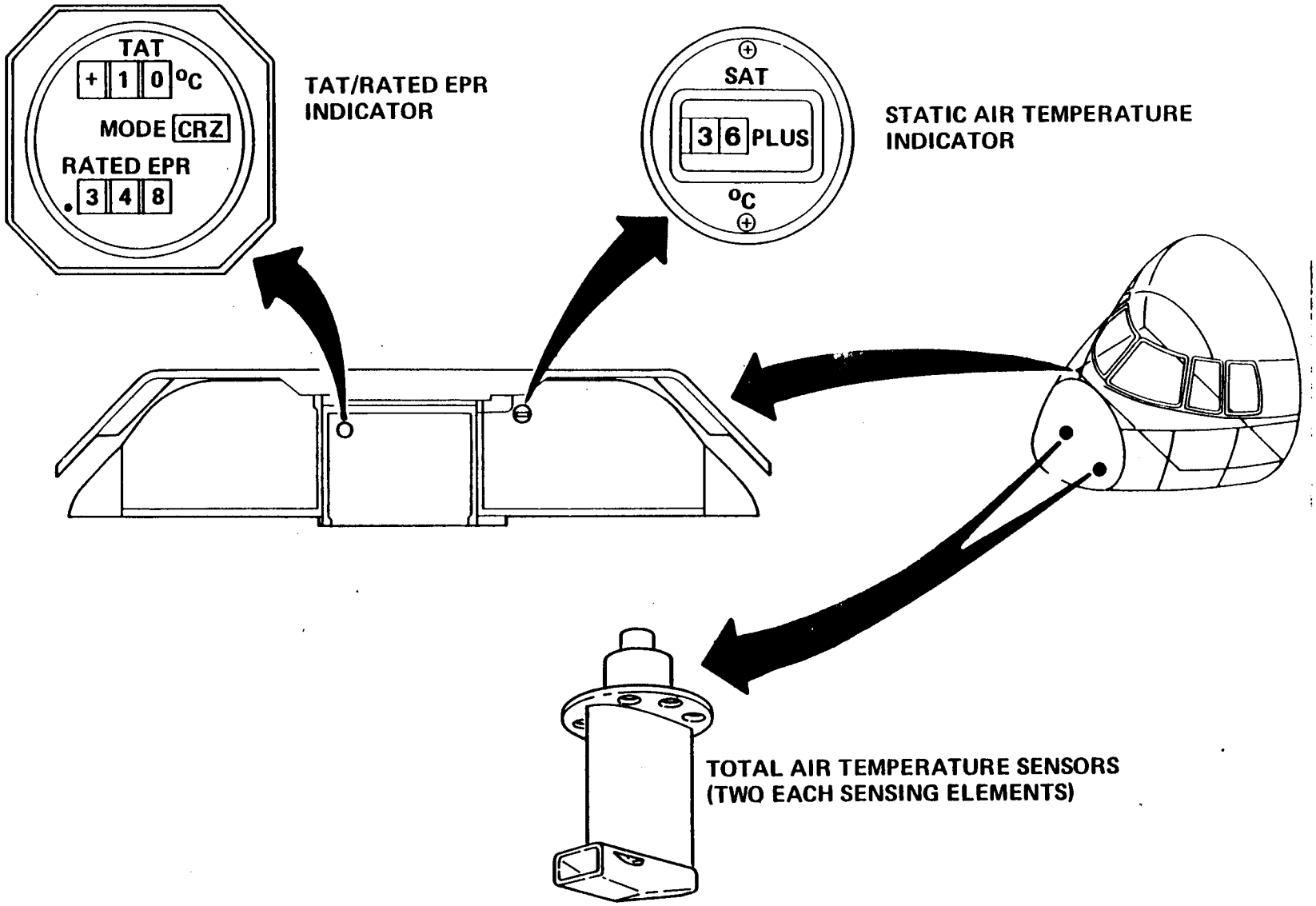


T-34-14-0006-108

TRUE AIRSPEED INDICATOR

L-1011

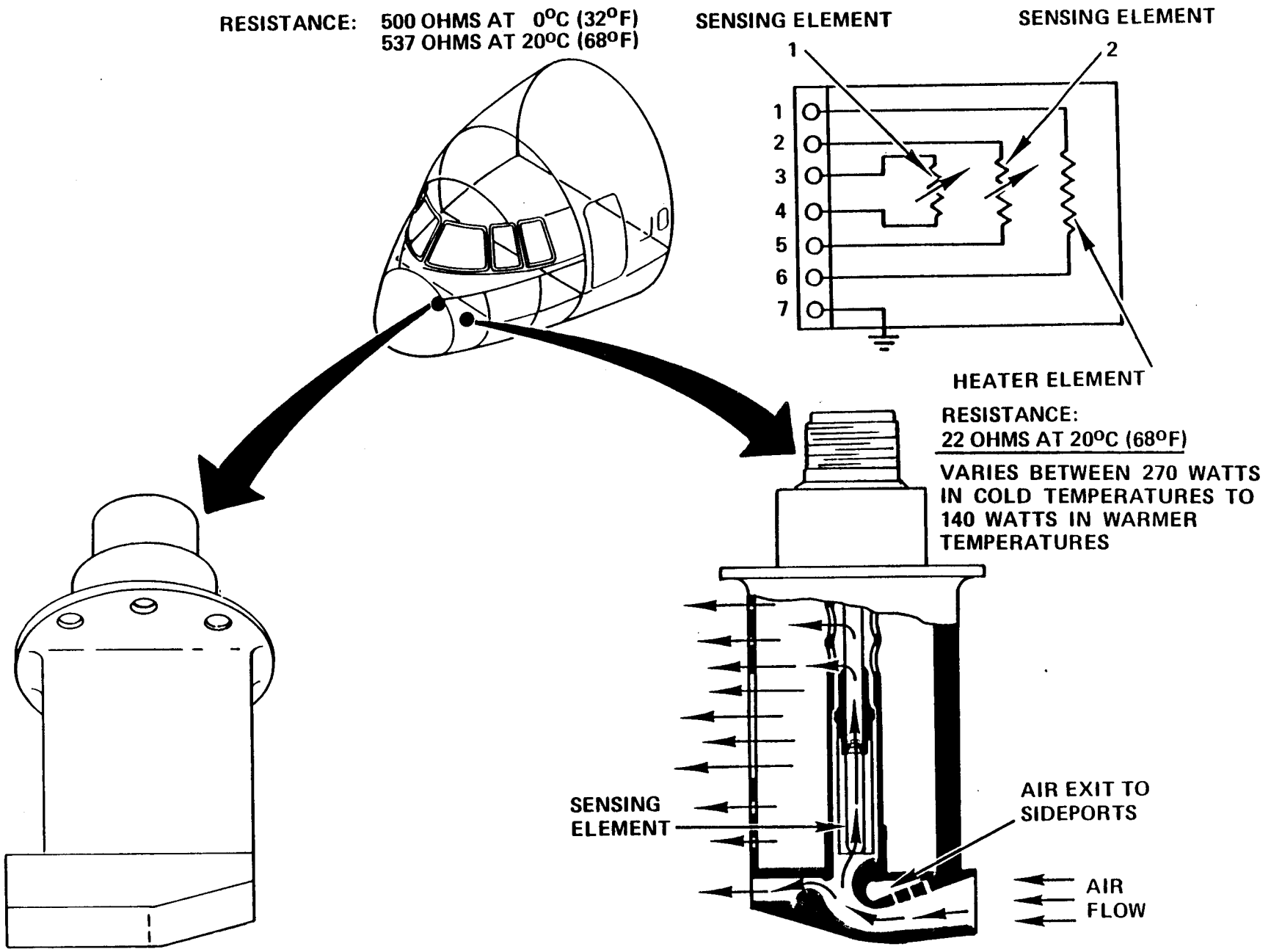
FOR TRAINING PURPOSES ONLY



AIR TEMPERATURE SYSTEM COMPONENT LOCATION DIAGRAM

T-34-15-0003-130

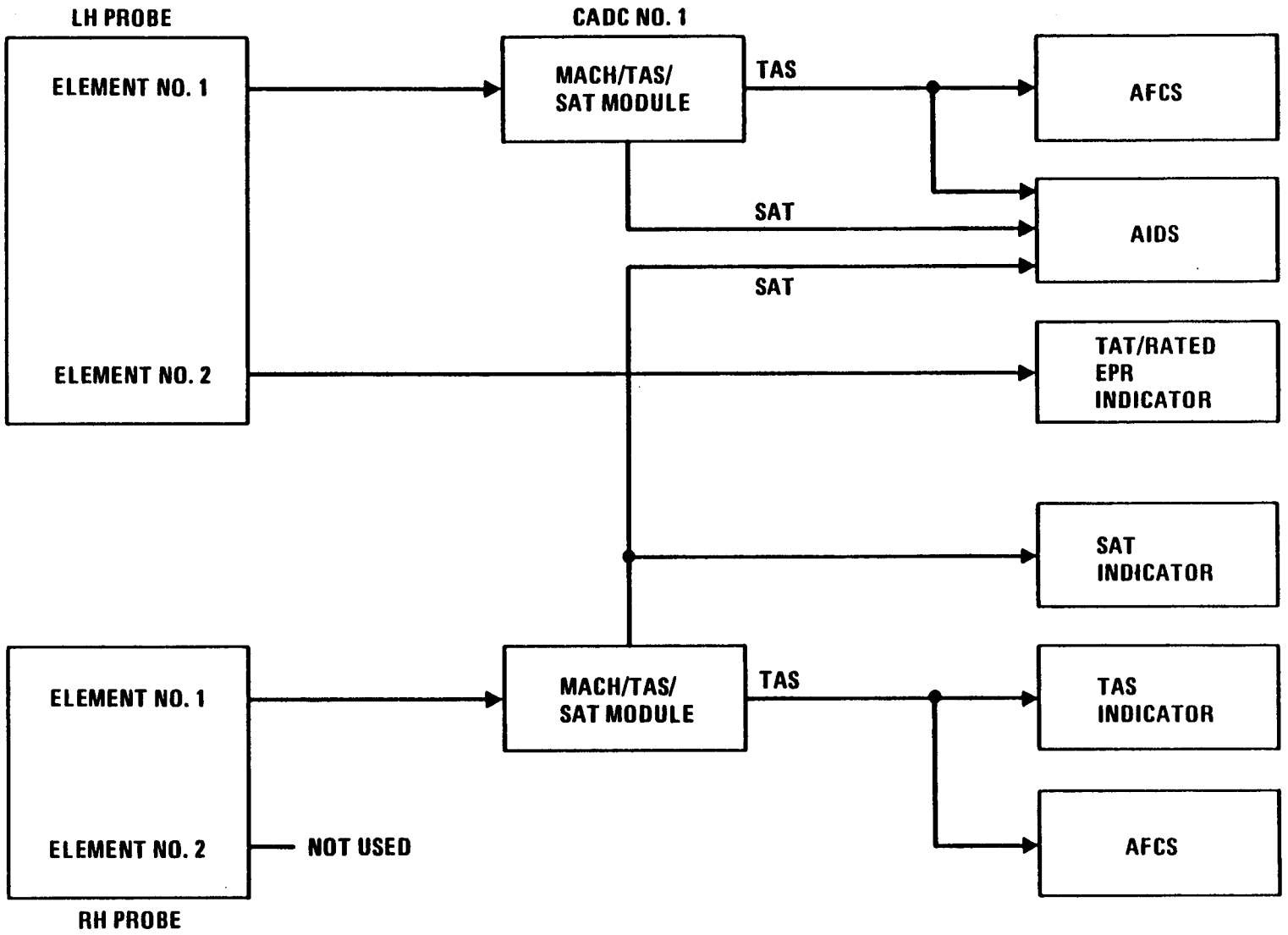
L-1011
12/76



T-34-15-0002-003

TOTAL TEMPERATURE PROBE

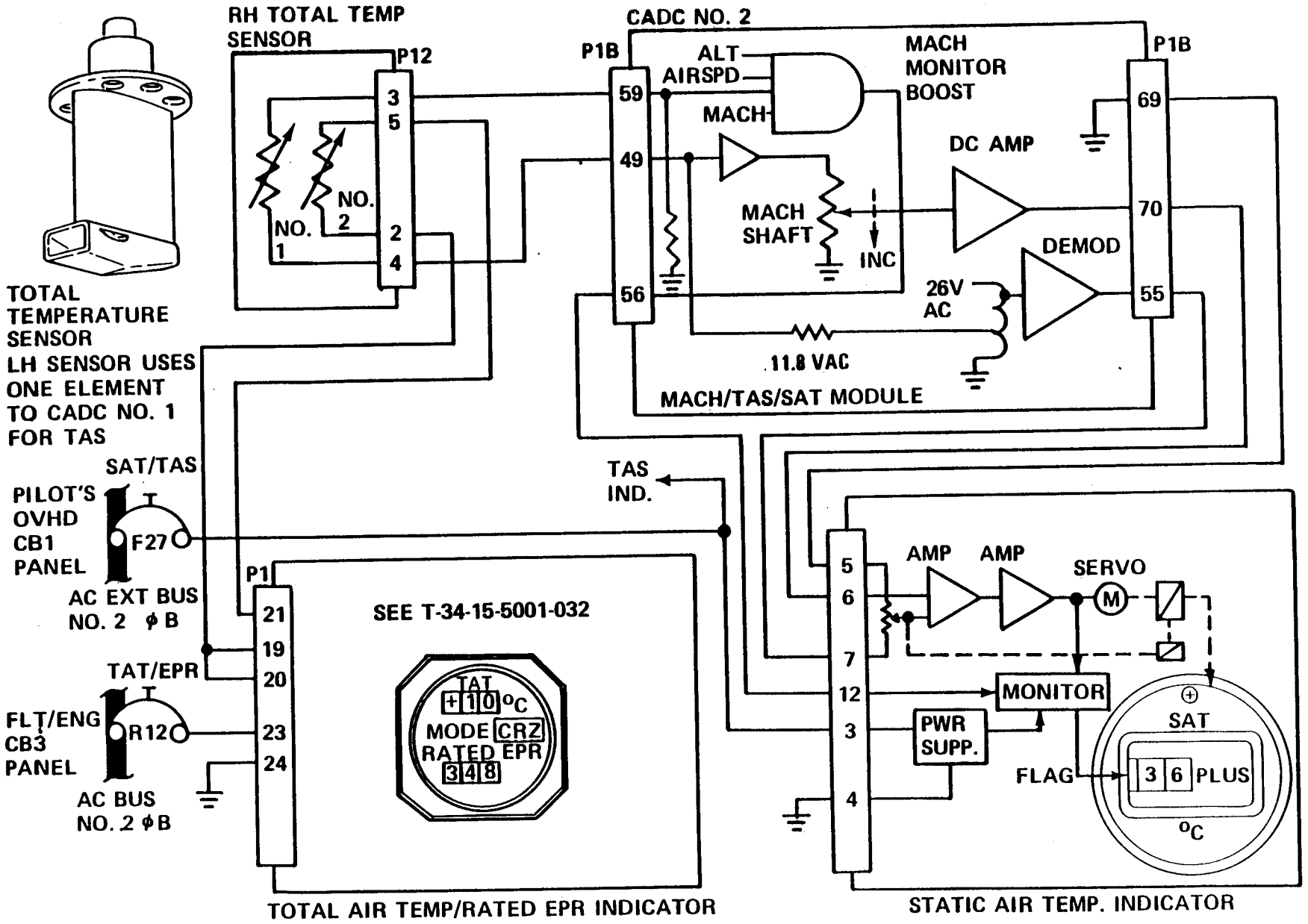
L-1011
8/74



T-34-15-0001-028

AIR TEMPERATURE SYSTEM BLOCK DIAGRAM

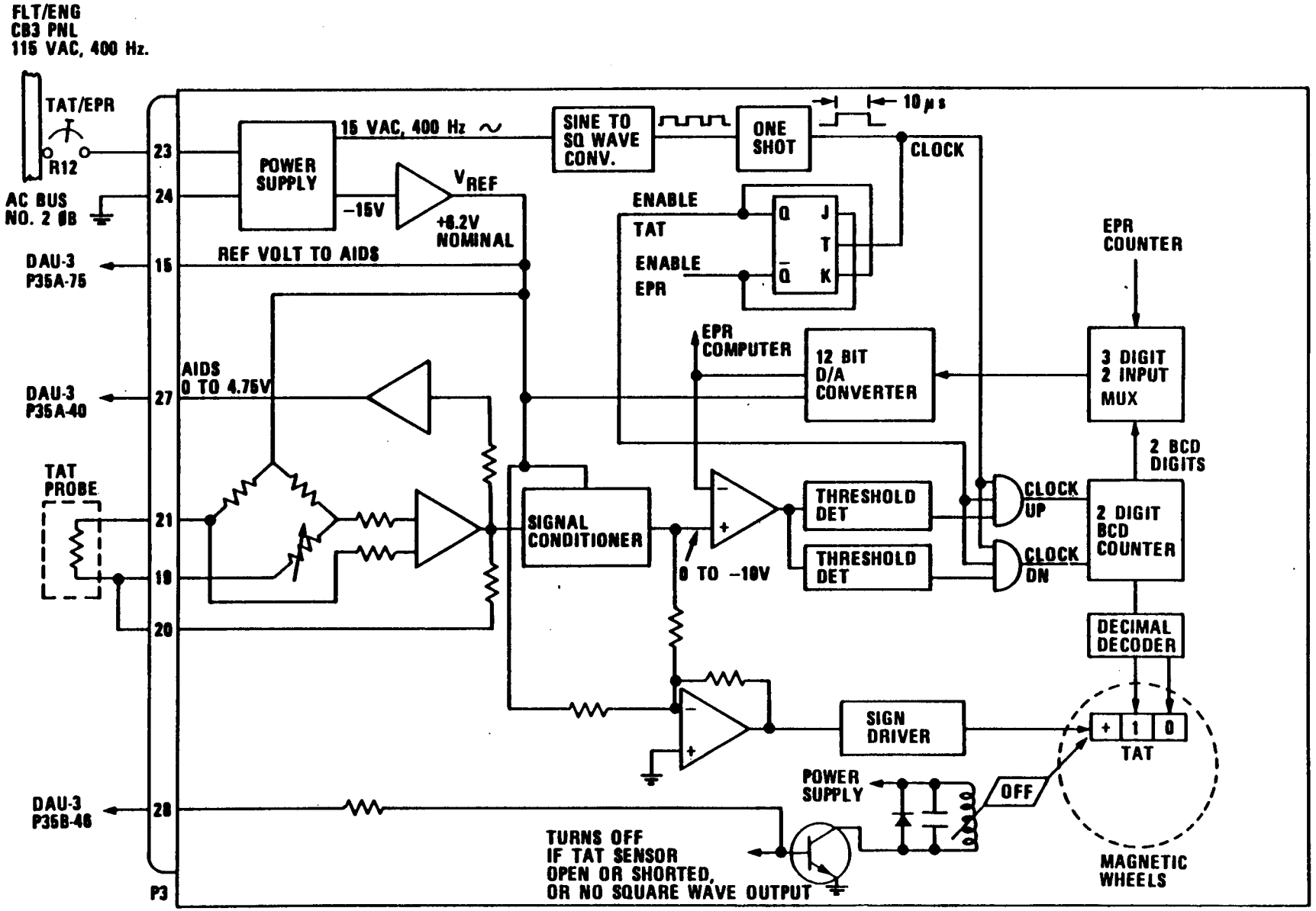
L-1011
2/76



AIR TEMPERATURE SYSTEM FUNCTIONAL DIAGRAM

T-34-15-5003-188

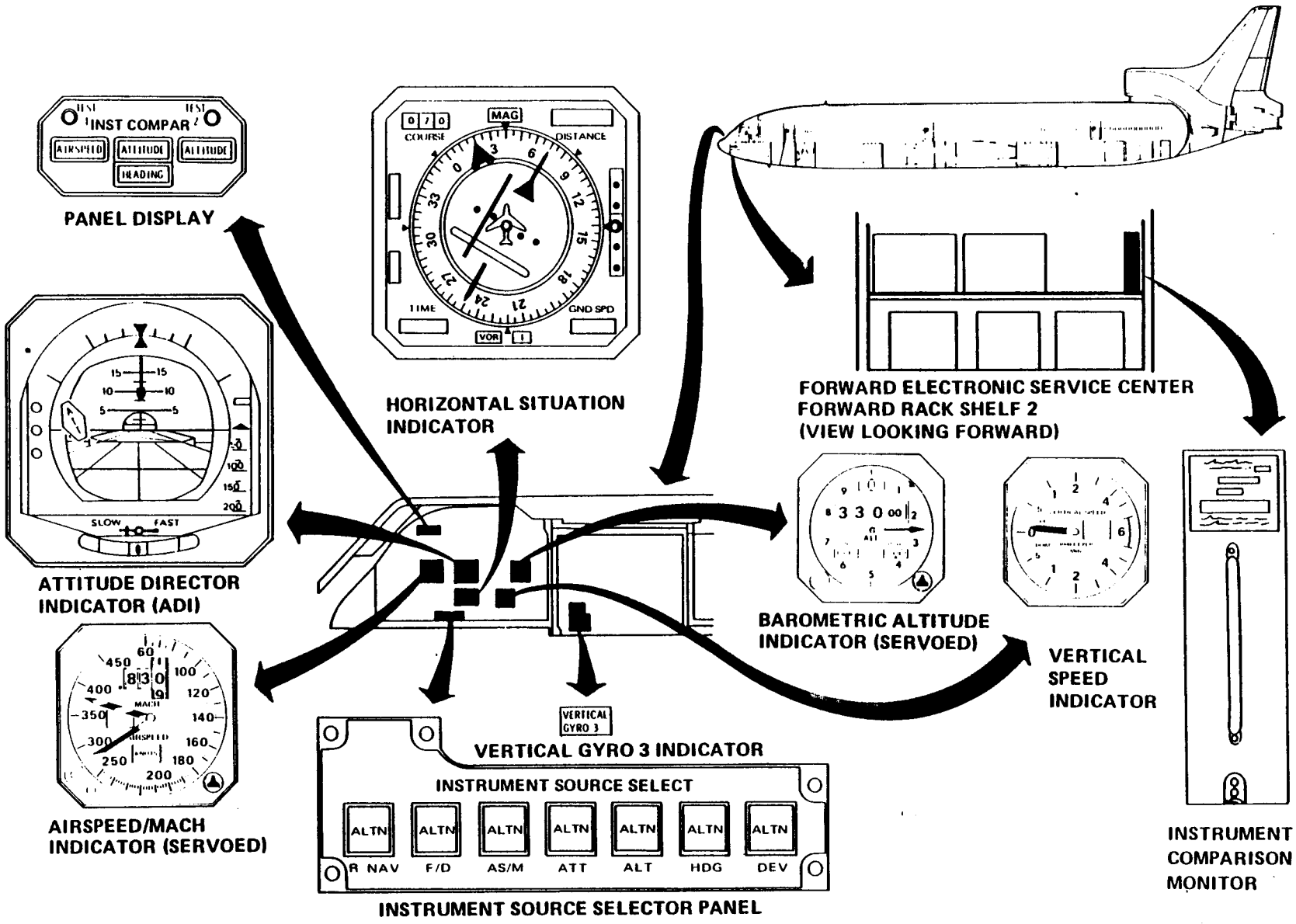
L-1011
2/72



TAT/RATED EPR INDICATOR FUNCTIONAL DIAGRAM

T-34-15-5001-032

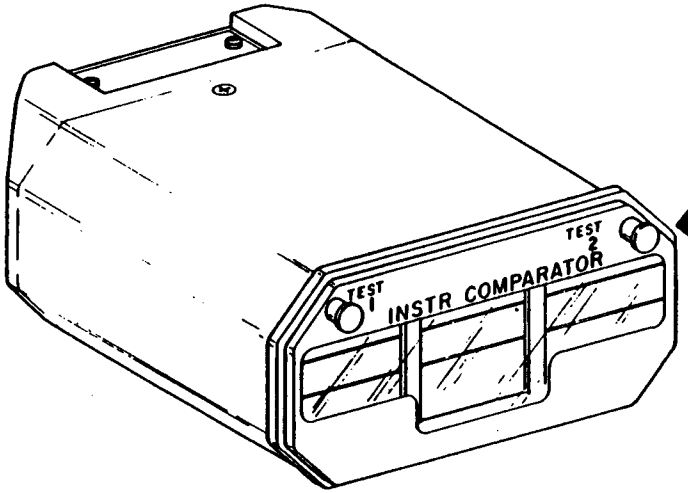
L-1011
3/72



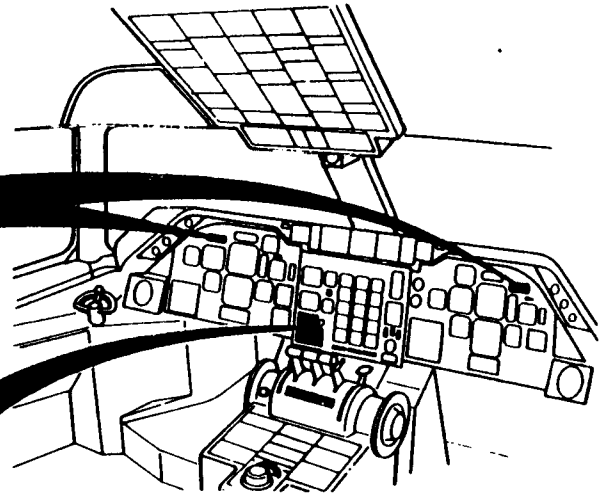
CENTRAL INSTRUMENT WARNING SYSTEM LOCATION DIAGRAM

T-34-16-0004-024

L-1011
10/74



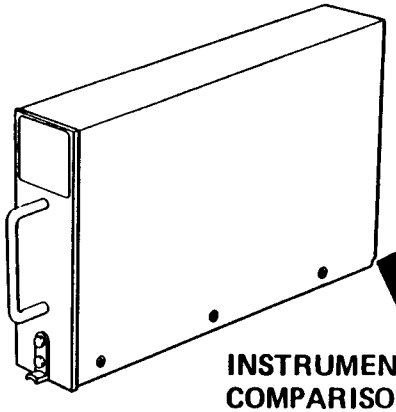
INSTRUMENT COMPARATOR PANEL



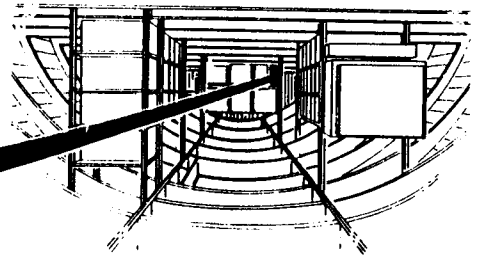
PILOTS INSTRUMENT PANELS



WARNING LIGHT



INSTRUMENT
COMPARISON MONITOR



FESC LOOKING FORWARD

T-34-16-0005-022

CENTRALIZED INST WARNING SYSTEM COMPONENTS

L-1011

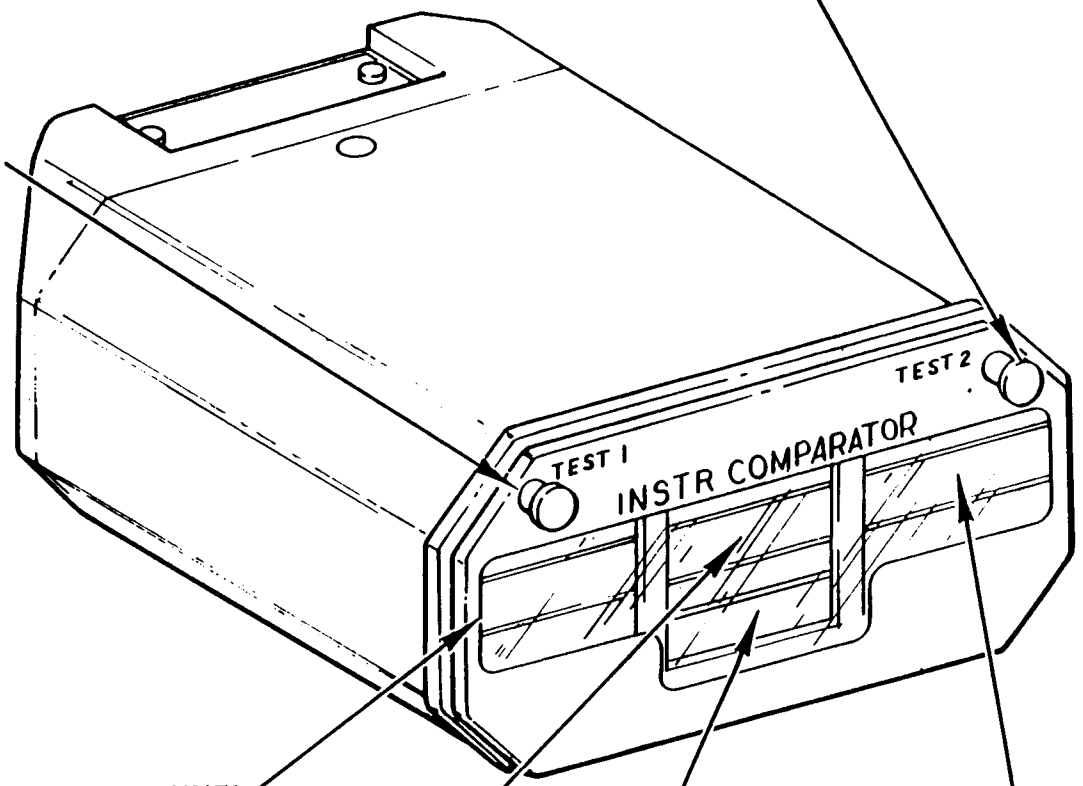
FOR TRAINING PURPOSES ONLY

CAPTAIN'S TEST 1 PRESSED
ALL ANNUNCIATOR INDICATIONS SHOULD TURN YELLOW AND THE CAPTAIN'S ADI ATT FLAG WILL COME INTO VIEW

FIRST OFFICERS TEST 1 PRESSED
ALL ANNUNCIATOR INDICATIONS SHOULD TURN YELLOW AND THE FIRST OFFICER'S ADI ATT FLAG WILL COME INTO VIEW

CAPTAIN'S AND FIRST OFFICER'S TEST 1 PRESSED SIMULTANEOUSLY
VG3 ANNUNCIATOR LAMP ON THE CENTER INSTRUMENT PANEL SHOULD ILLUMINATE

CAPTAIN'S OR FIRST OFFICER'S TEST 2 PRESSED
ALL ANNUNCIATOR INDICATIONS TURN YELLOW CROSS HATCHED



AIRSPEED CHANNEL ANNUNCIATOR

ATTITUDE CHANNEL ANNUNCIATOR

HEADING CHANNEL ANNUNCIATOR

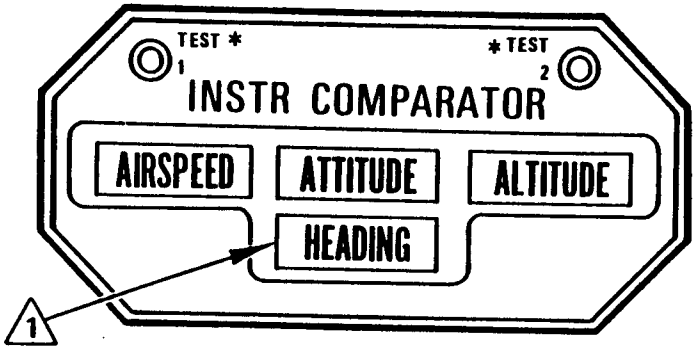
ALTITUDE CHANNEL ANNUNCIATOR

T-34-16-0006-132

INSTRUMENT COMPARATOR PANEL

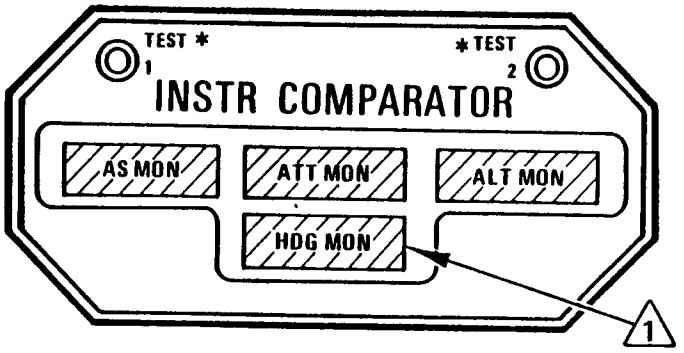
L-1011
10/74

TEST 1. CAUSES COMPARISON WARNINGS TO BE DISPLAYED

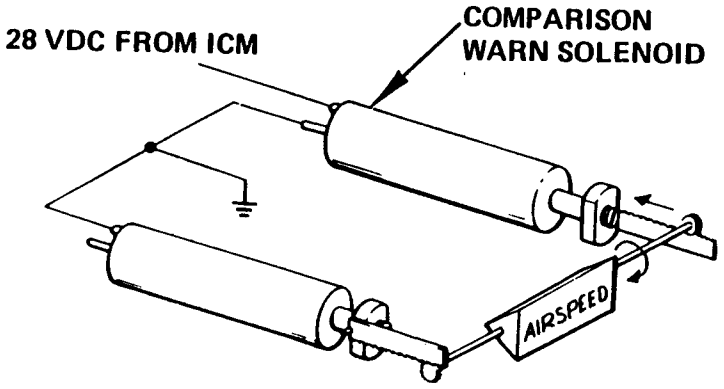


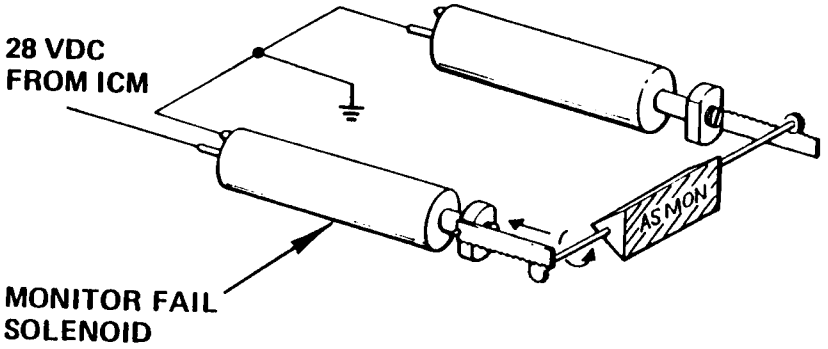
COMPARISON WARNINGS

TEST 2. CAUSES MONITOR FAIL WARNINGS TO BE DISPLAYED



MONITOR FAILURES





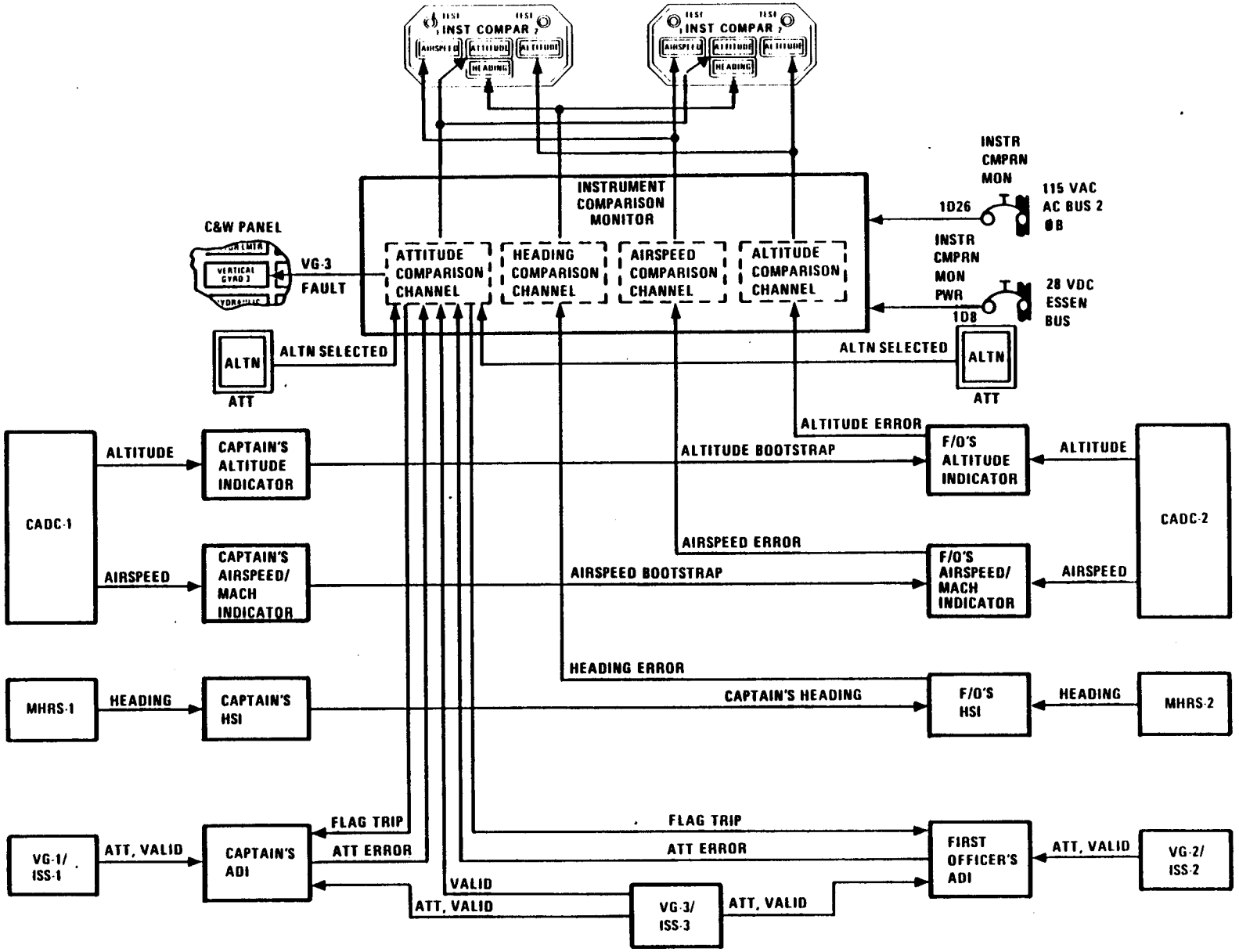
1 OPTIONAL

T-34-16-0007-132

INSTRUMENT COMPARATOR PANEL

FOR TRAINING PURPOSES ONLY

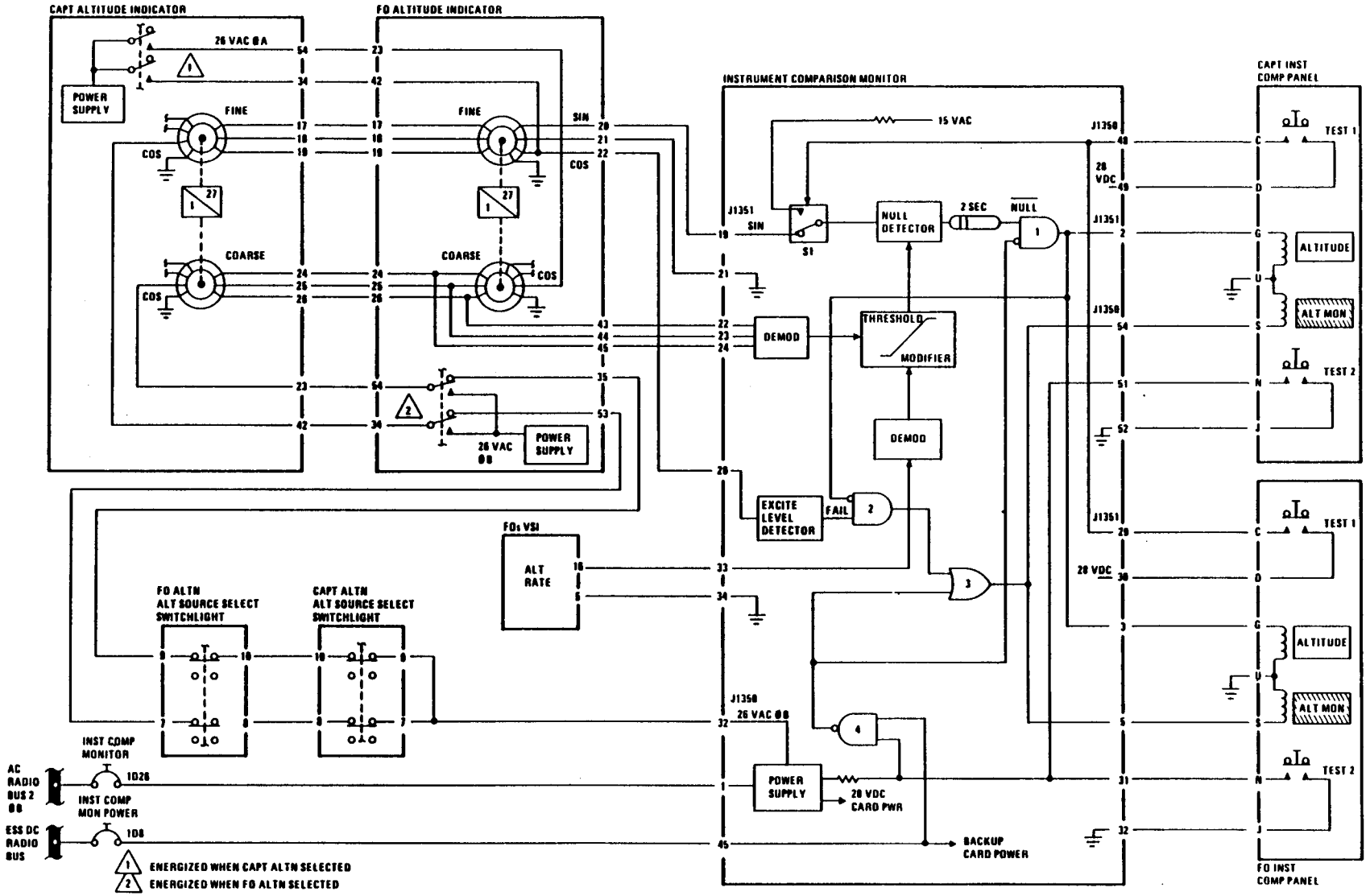
L-1011



CENTRAL INSTRUMENT WARNING SYSTEM BLOCK DIAGRAM

T-34-16-0003-229

L-1011
1/77

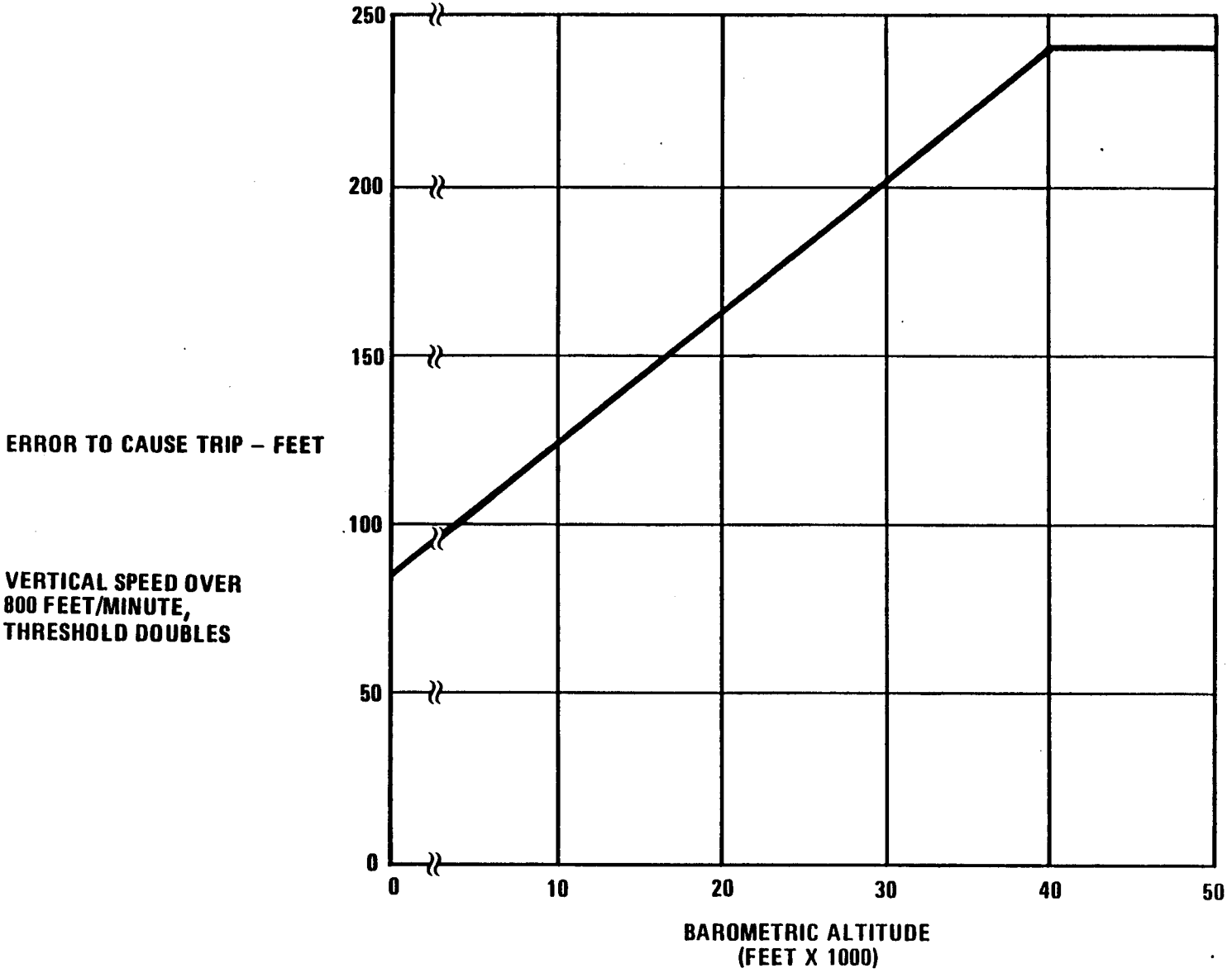


CIWS ALTITUDE COMPARISON FUNCTIONAL DIAGRAM

T-34-16-0013-092

L-1011

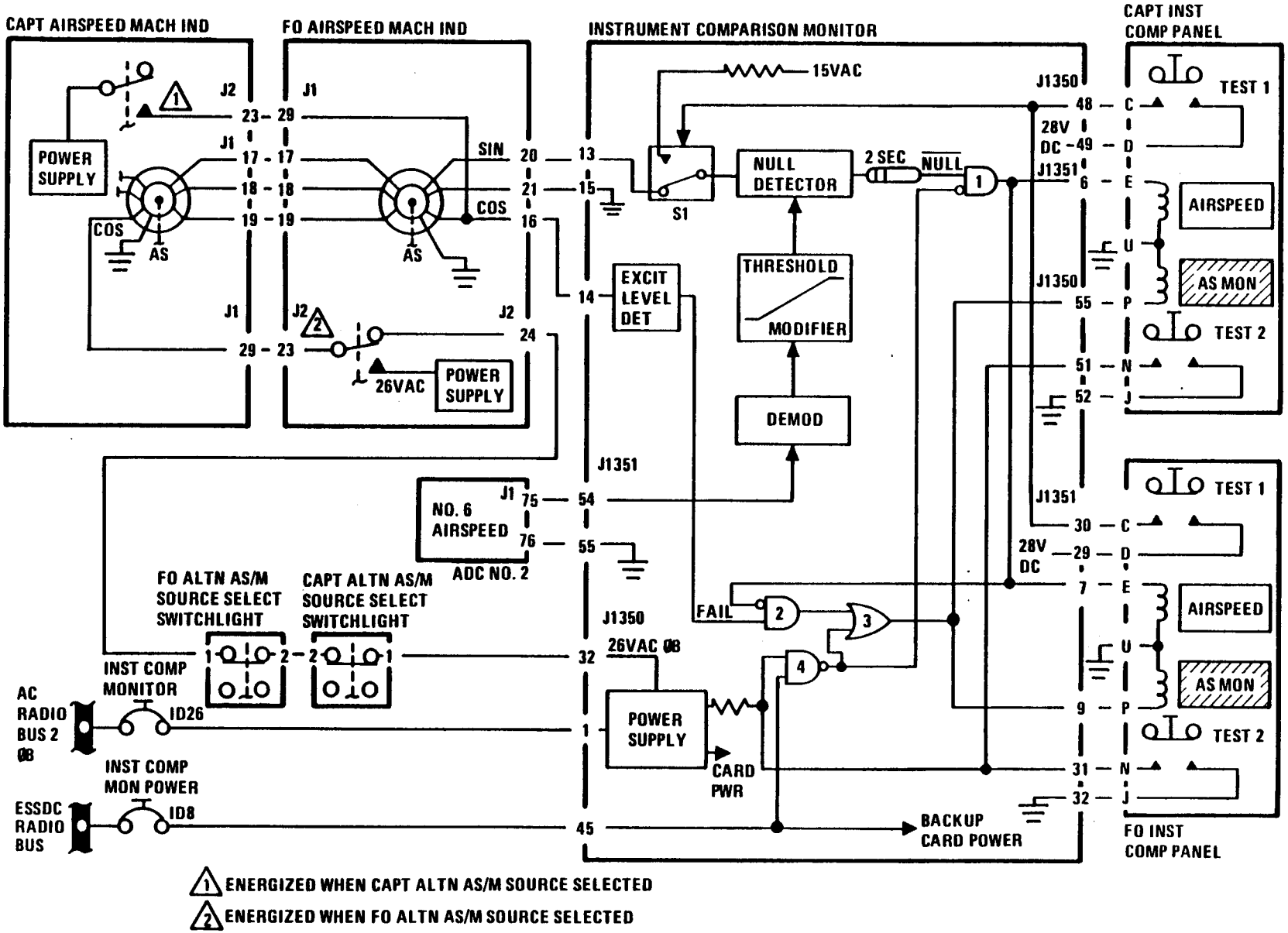
FOR TRAINING PURPOSES ONLY



ALTITUDE THRESHOLD MODIFICATION
CENTRAL INSTRUMENT WARNING SYSTEM

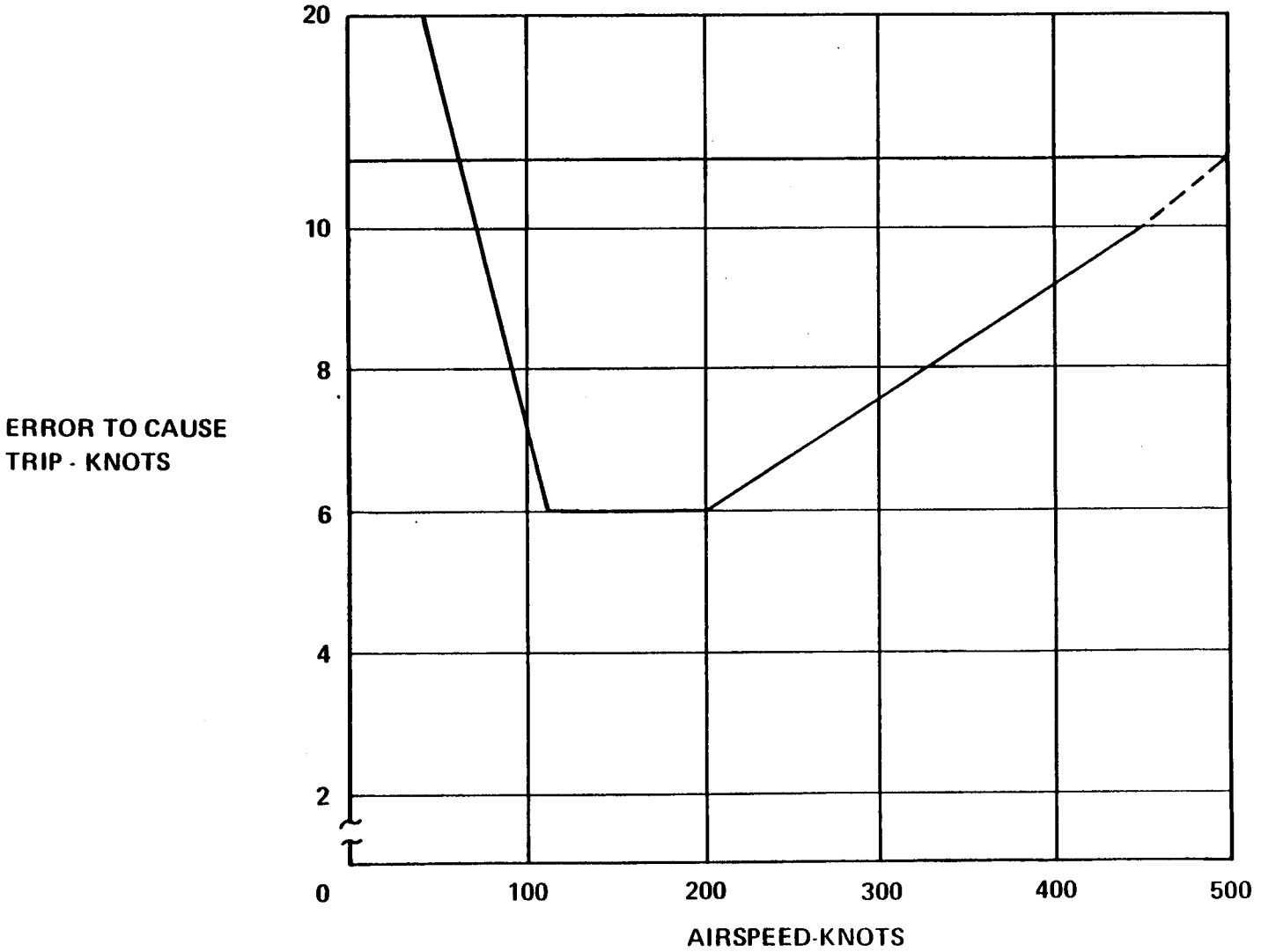
T-34-16-0101-151

L-1011
3/72



T-34-16-0012-093 **CIWS AIRSPEED COMPARISON FUNCTIONAL DIAGRAM** L-1011

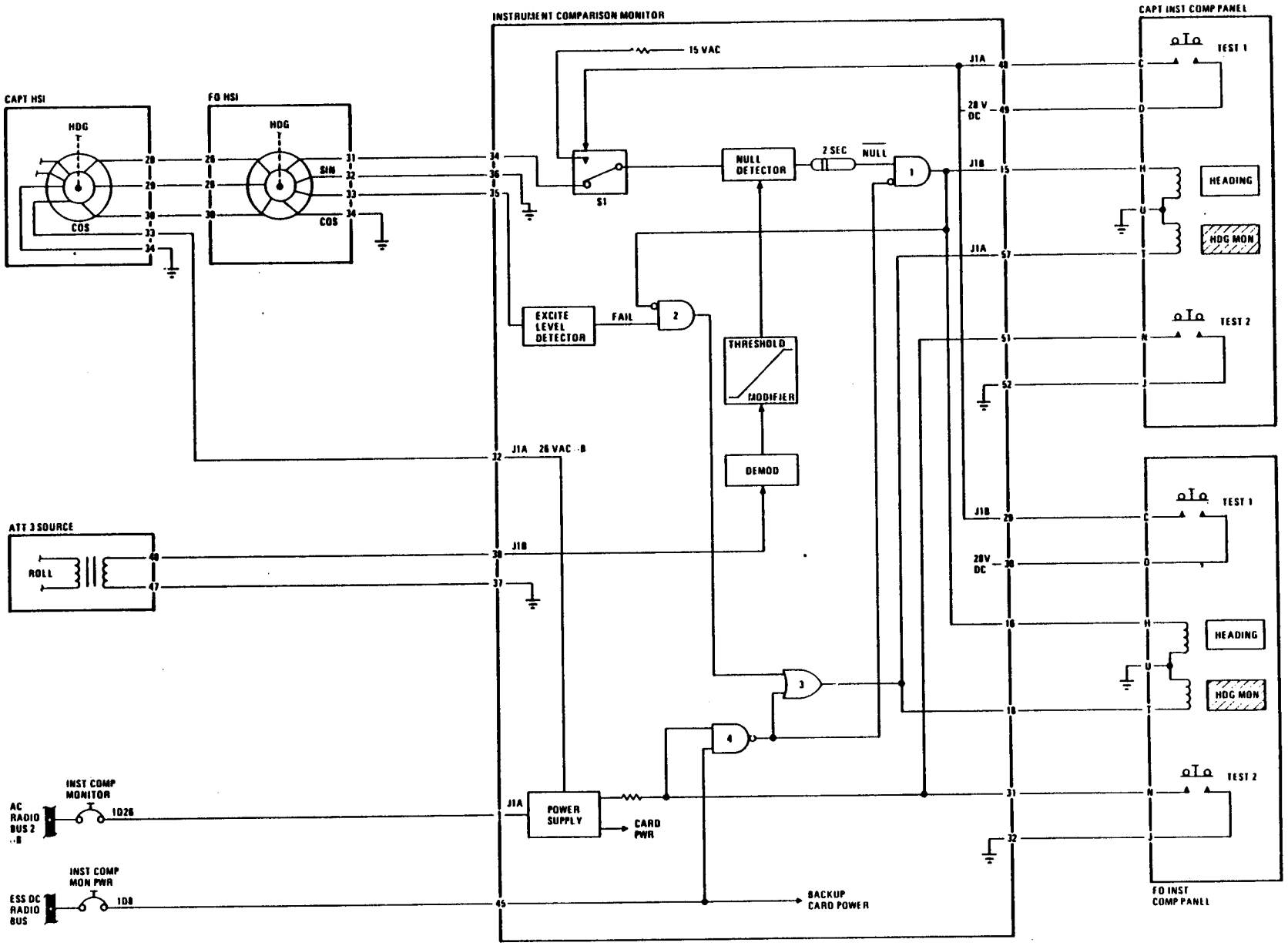
FOR TRAINING PURPOSES ONLY



AIRSPEED THRESHOLD MODIFICATION

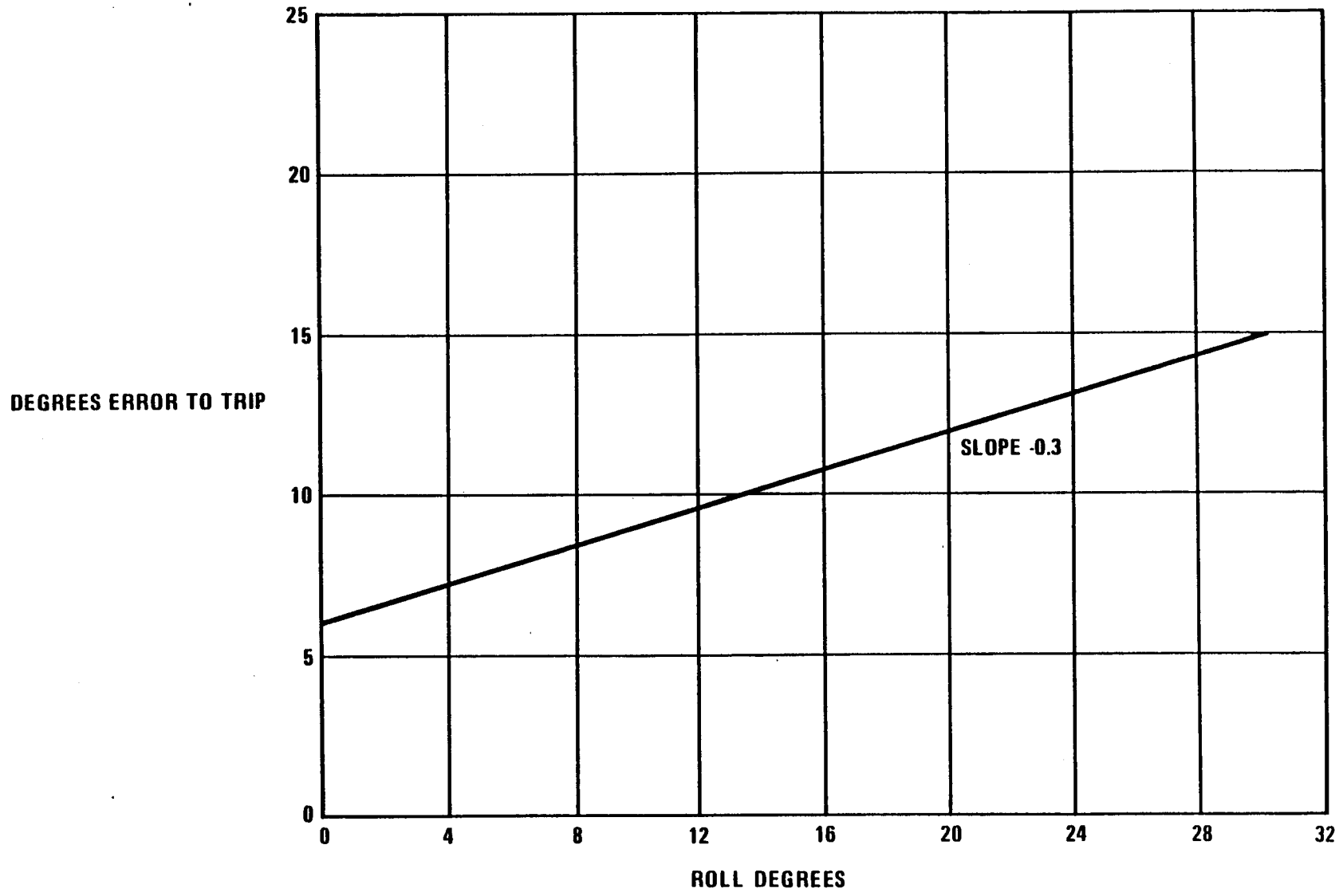
T-34-16-0001-133

CIWS AIRSPEED THRESHOLD MODIFICATION



T-34-16-0010-100 **CIWS HEADING COMPARISON FUNCTIONAL DIAGRAM** L-1011

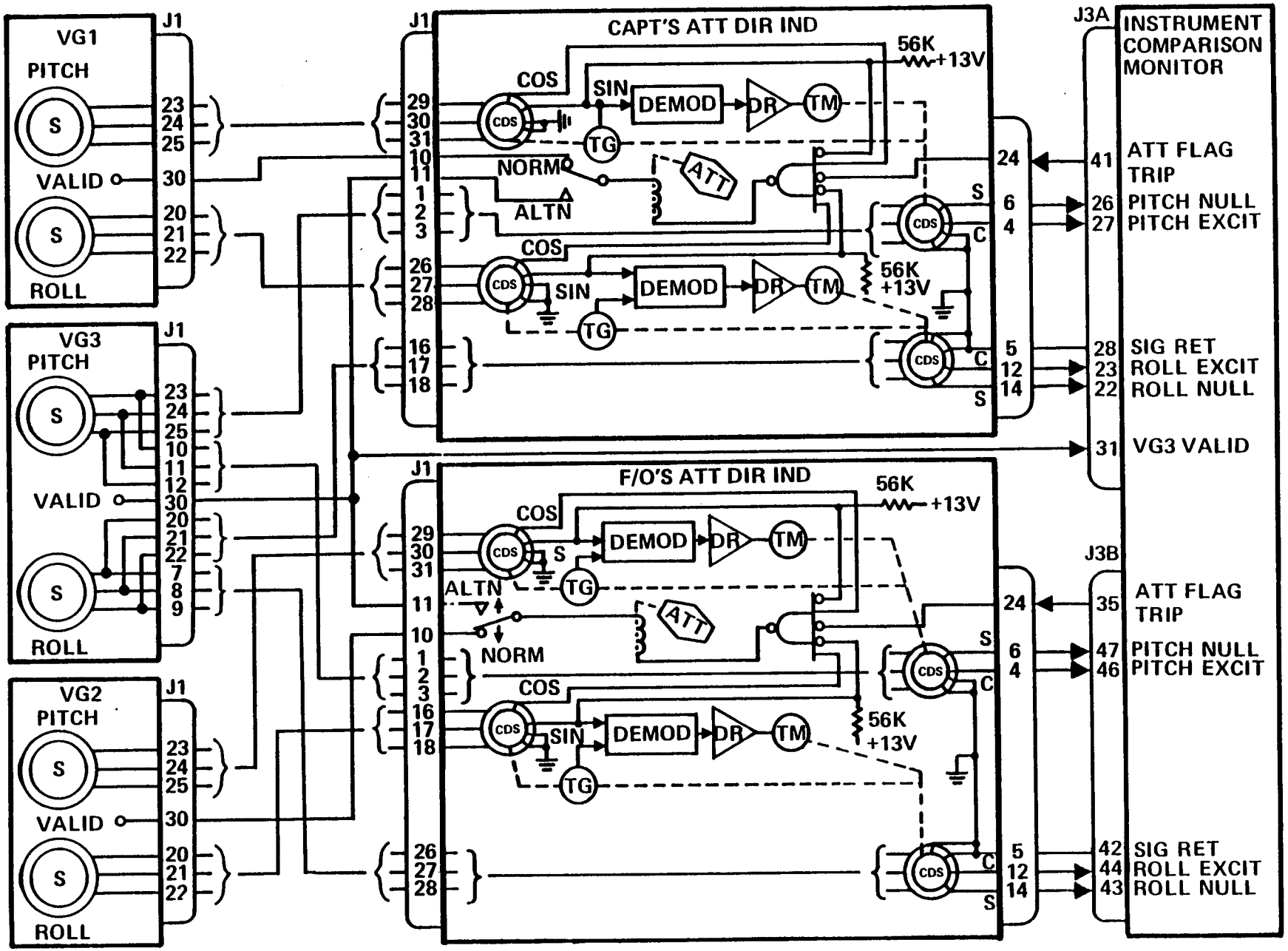
FOR TRAINING PURPOSES ONLY



HEADING THRESHOLD MODIFICATION
CENTRAL INSTRUMENT WARNING SYSTEM

T-34-16-0002-152

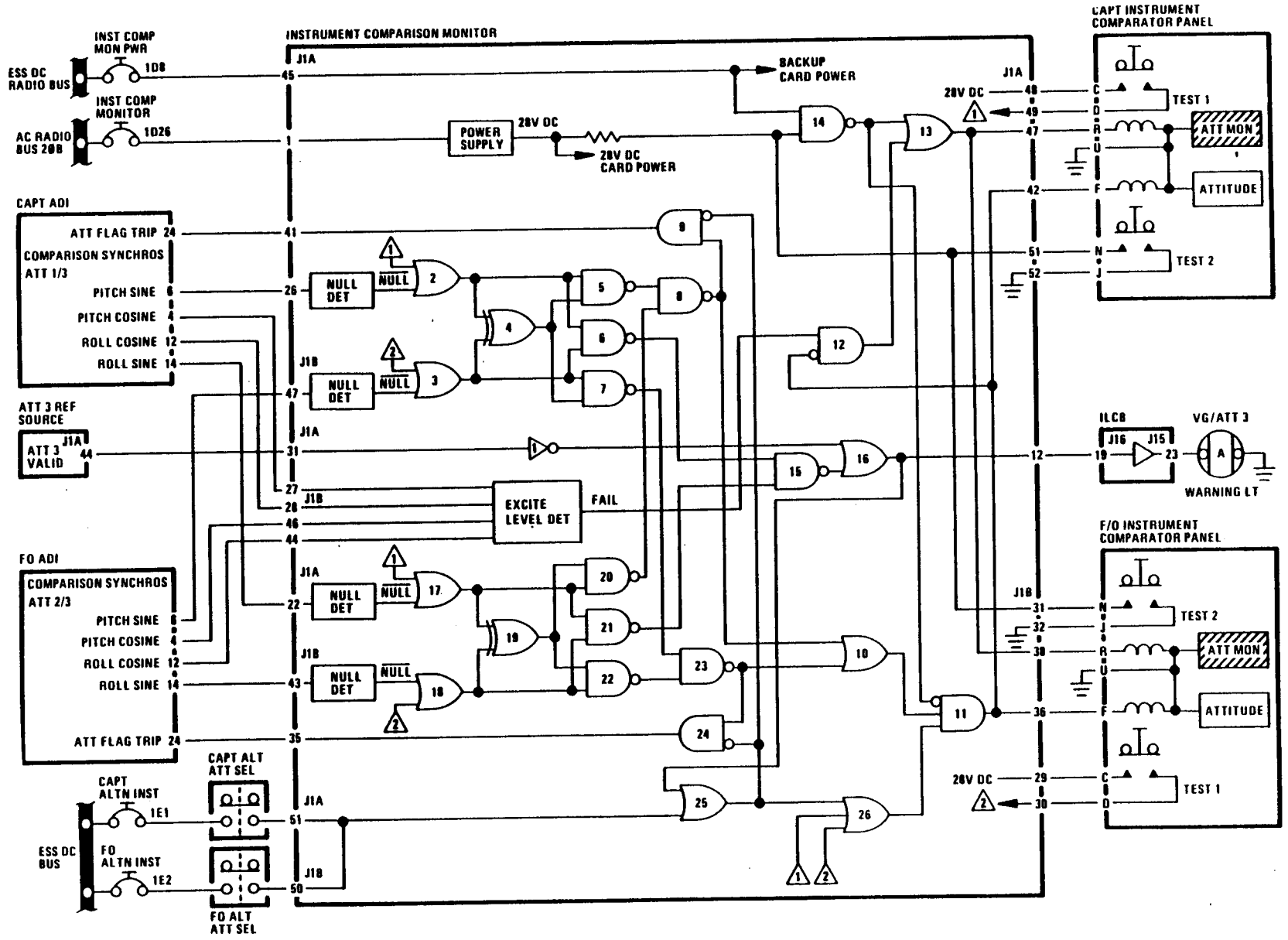
L-1011
6/73



T-34-16-0007-097

CIWS FUNCTIONAL DIAGRAM ATTITUDE CHANNEL

L-1011
10/74

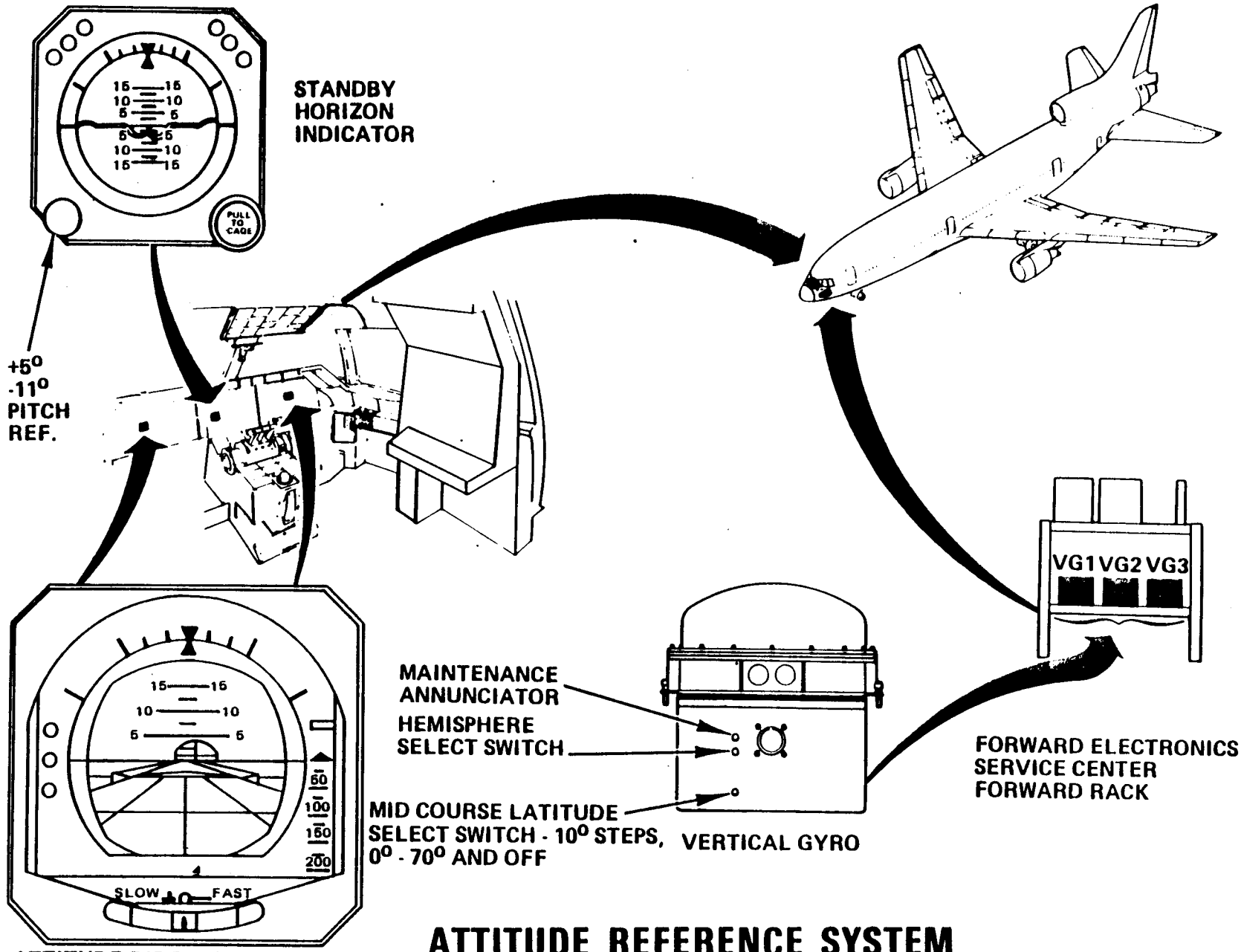


CIWS ATTITUDE COMPARISON FUNCTIONAL DIAGRAM

T-34-16-0016-098

L-1011

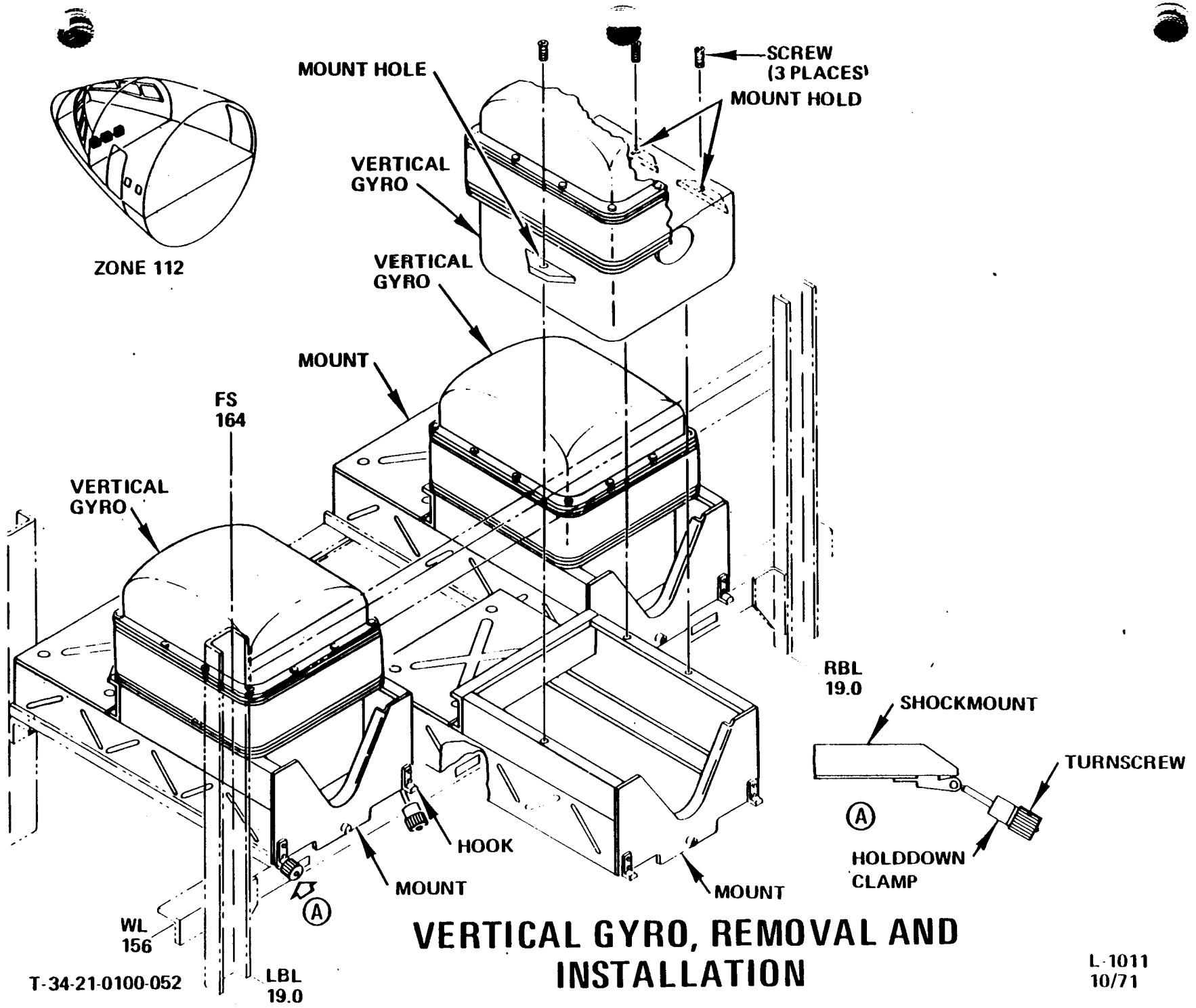
FOR TRAINING PURPOSES ONLY



T-34-21-0002-008

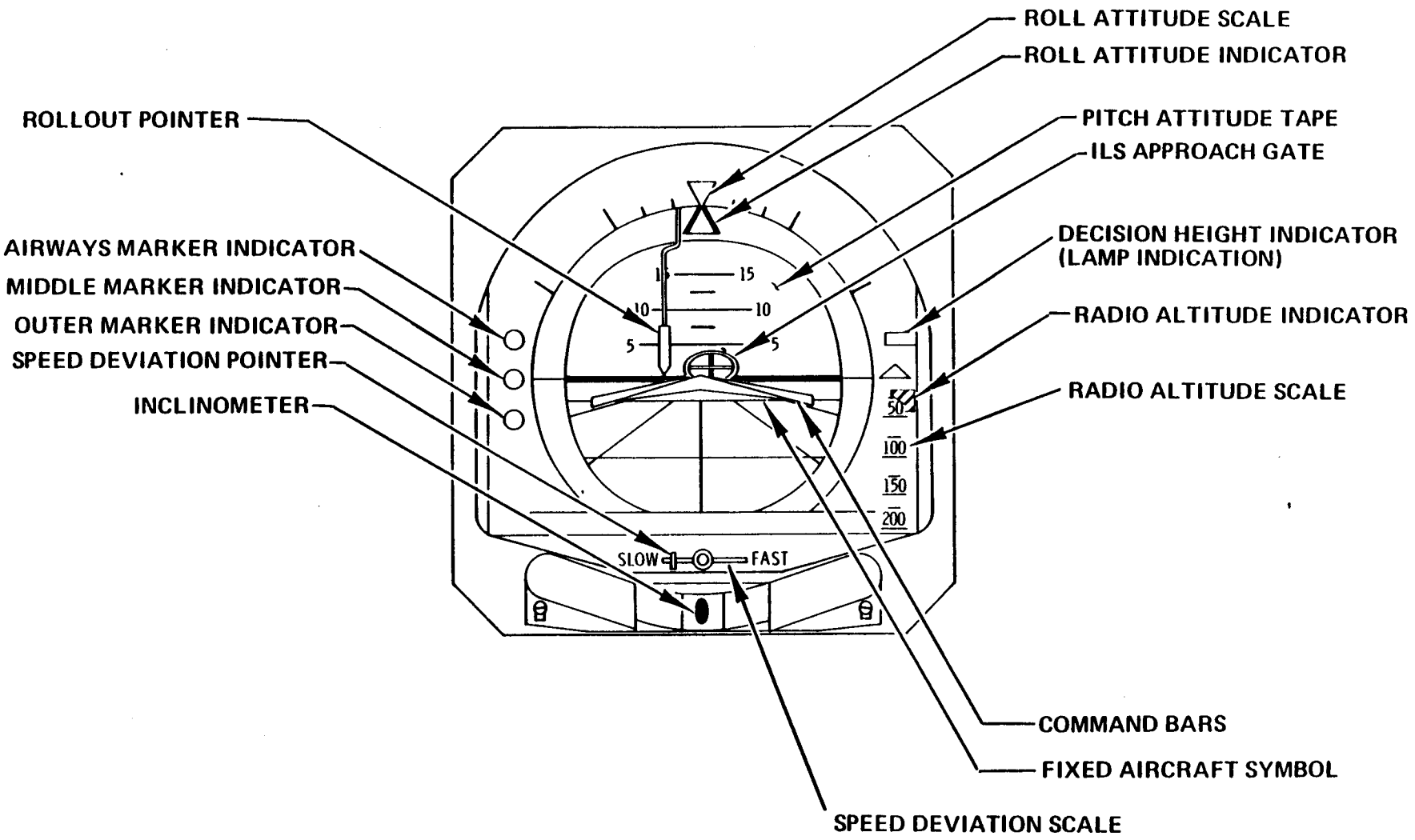
ATTITUDE REFERENCE SYSTEM COMPONENT LOCATION DIAGRAM

L-1011
10/73



VERTICAL GYRO, REMOVAL AND INSTALLATION

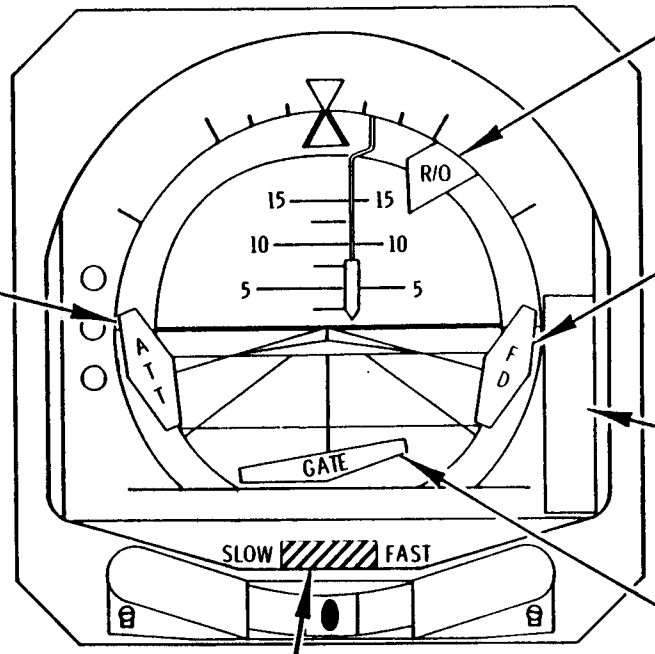
L-1011
10/71



T-34-21-0002-032

ATTITUDE DIRECTOR INDICATOR

L-1011
9/73



ROLL OUT POINTER FLAG
- INVALID R/O POINTER SERVO
- LOSS OF PRIMARY POWER

FLIGHT DIRECTOR FLAG
- INVALID COMMAND BAR SERVO
- FLIGHT DIRECTOR ON AND INVALID
- LOSS OF PRIMARY POWER

ATTITUDE FLAG
- FIRST FAILURE OF APPROPRIATE VERTICAL GYRO (VG1 OR VG2)
- INVALID ATTITUDE SERVO
- INVALID INTERNAL POWER
- LOSS OF PRIMARY POWER

RADIO ALTITUDE SHUTTER
- INVALID RADIO ALTITUDE
- ABOVE 200 FEET
- INVALID INTERNAL POWER
- LOSS OF PRIMARY POWER

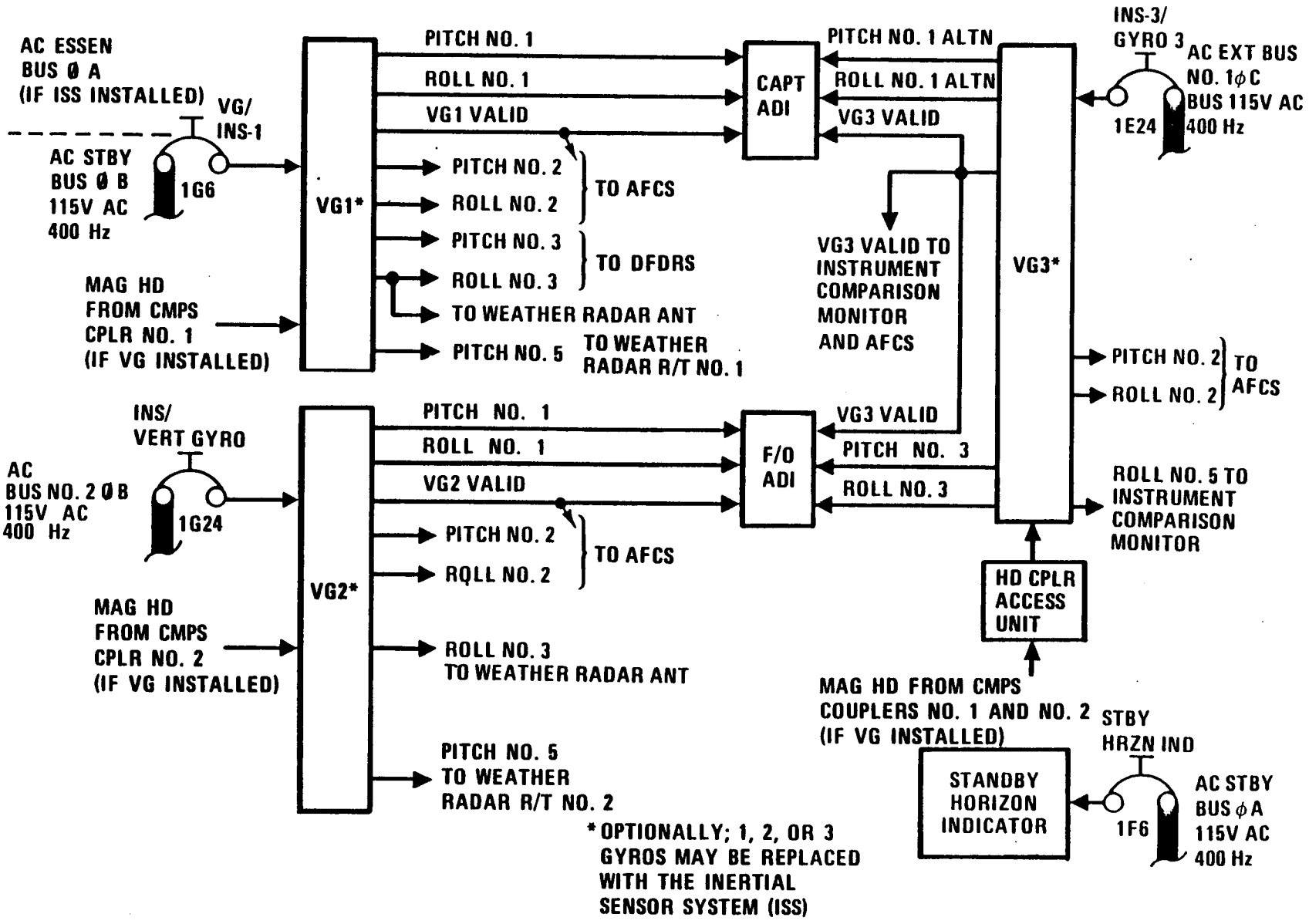
APPROACH GATE FLAG
- INVALID GATE SERVO
- INVALID INTERNAL POWER
- LOSS OF PRIMARY POWER

SPEED FLAG
- FAILURE OF SPEED COMMAND SYSTEM POWER SUPPLY
- LOSS OF PRIMARY POWER

T-34-21-0001-031

ATTITUDE DIRECTOR INDICATOR WITH FLAGS

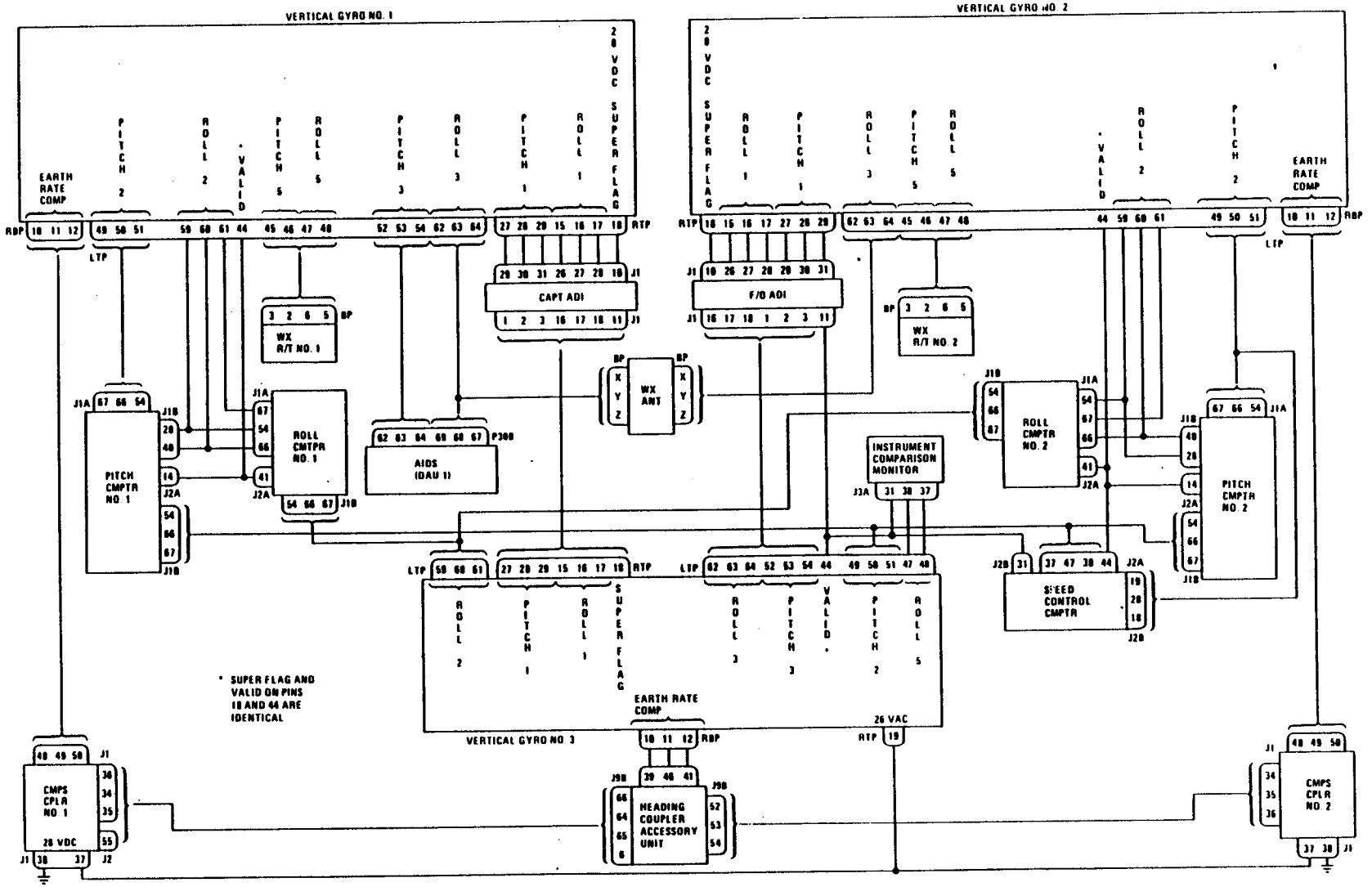
L-1011
9/73


AC ESSEN BUS Ø A (IF ISS INSTALLED)
VG/ INS-1
AC STBY BUS Ø B 115V AC 400 Hz
1G6
MAG HD FROM CMPS CPLR NO. 1 (IF VG INSTALLED)
VG1*
PITCH NO. 1
ROLL NO. 1
VG1 VALID
PITCH NO. 2
ROLL NO. 2
TO AFCS
PITCH NO. 3
ROLL NO. 3
TO DFDRS
TO WEATHER RADAR ANT
PITCH NO. 5
TO WEATHER RADAR R/T NO. 1
CAPT ADI
PITCH NO. 1 ALTN
ROLL NO. 1 ALTN
VG3 VALID
VG3 VALID TO INSTRUMENT COMPARISON MONITOR AND AFCS
INS-3/ GYRO 3
AC EXT BUS NO. 1ϕC BUS 115V AC 400 Hz
1E24
VG3*
PITCH NO. 2
ROLL NO. 2
TO AFCS
ROLL NO. 5 TO INSTRUMENT COMPARISON MONITOR
INS/ VERT GYRO
AC BUS NO. 2 ØB 115V AC 400 Hz
1G24
MAG HD FROM CMPS CPLR NO. 2 (IF VG INSTALLED)
VG2*
PITCH NO. 1
ROLL NO. 1
VG2 VALID
PITCH NO. 2
RQLL NO. 2
TO AFCS
ROLL NO. 3 TO WEATHER RADAR ANT
PITCH NO. 5 TO WEATHER RADAR R/T NO. 2
F/O ADI
VG3 VALID
PITCH NO. 3
ROLL NO. 3
HD CPLR ACCESS UNIT
MAG HD FROM CMPS COUPLERS NO. 1 AND NO. 2 (IF VG INSTALLED)
STBY HRZN IND
STANDBY HORIZON INDICATOR
1F6
AC STBY BUS ϕA 115V AC 400 Hz
*OPTIONALLY; 1, 2, OR 3 GYROS MAY BE REPLACED WITH THE INERTIAL SENSOR SYSTEM (ISS)

T-34-21-0005-013

ATTITUDE REFERENCE SYSTEM BLOCK DIAGRAM

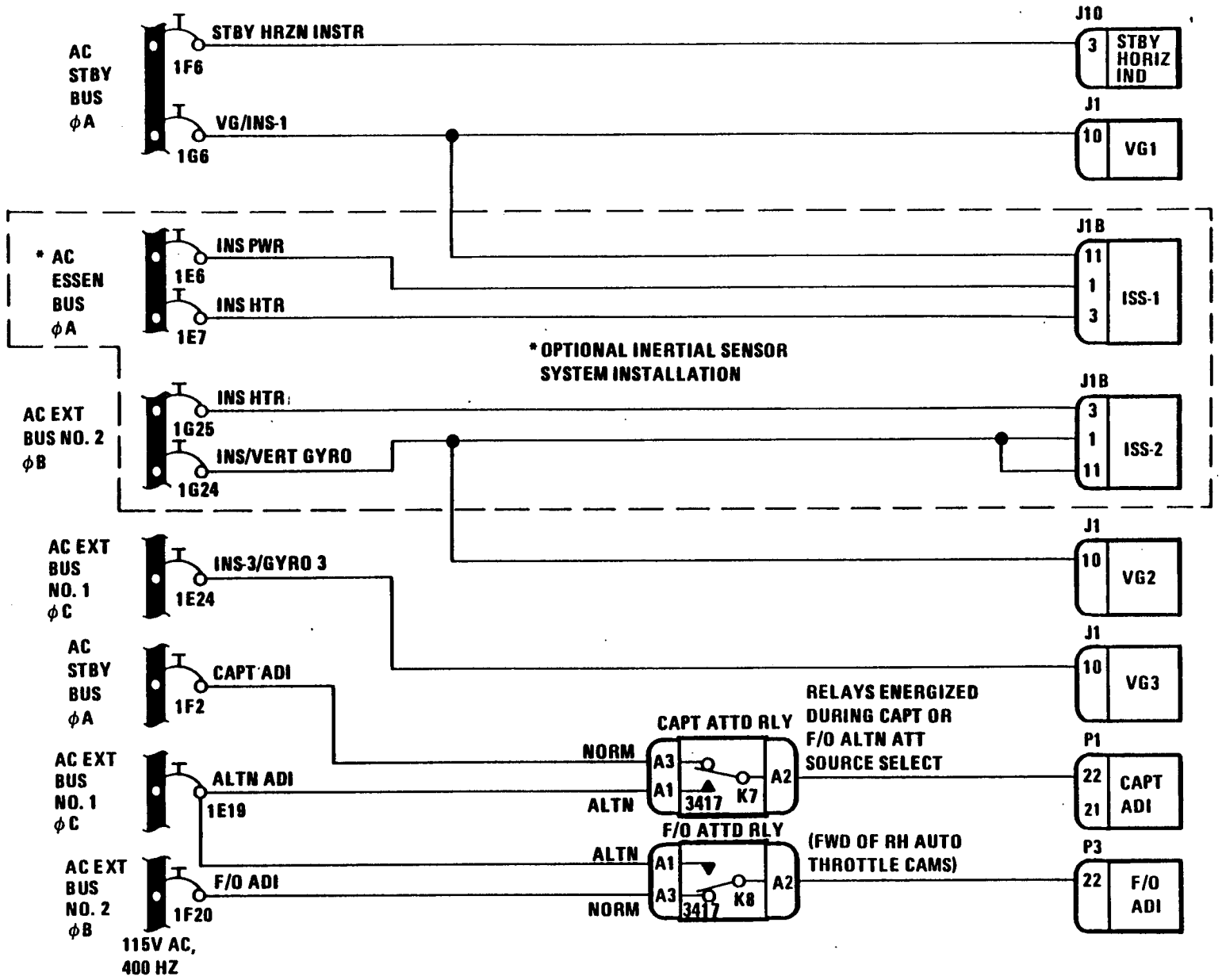
L-1011
10/75



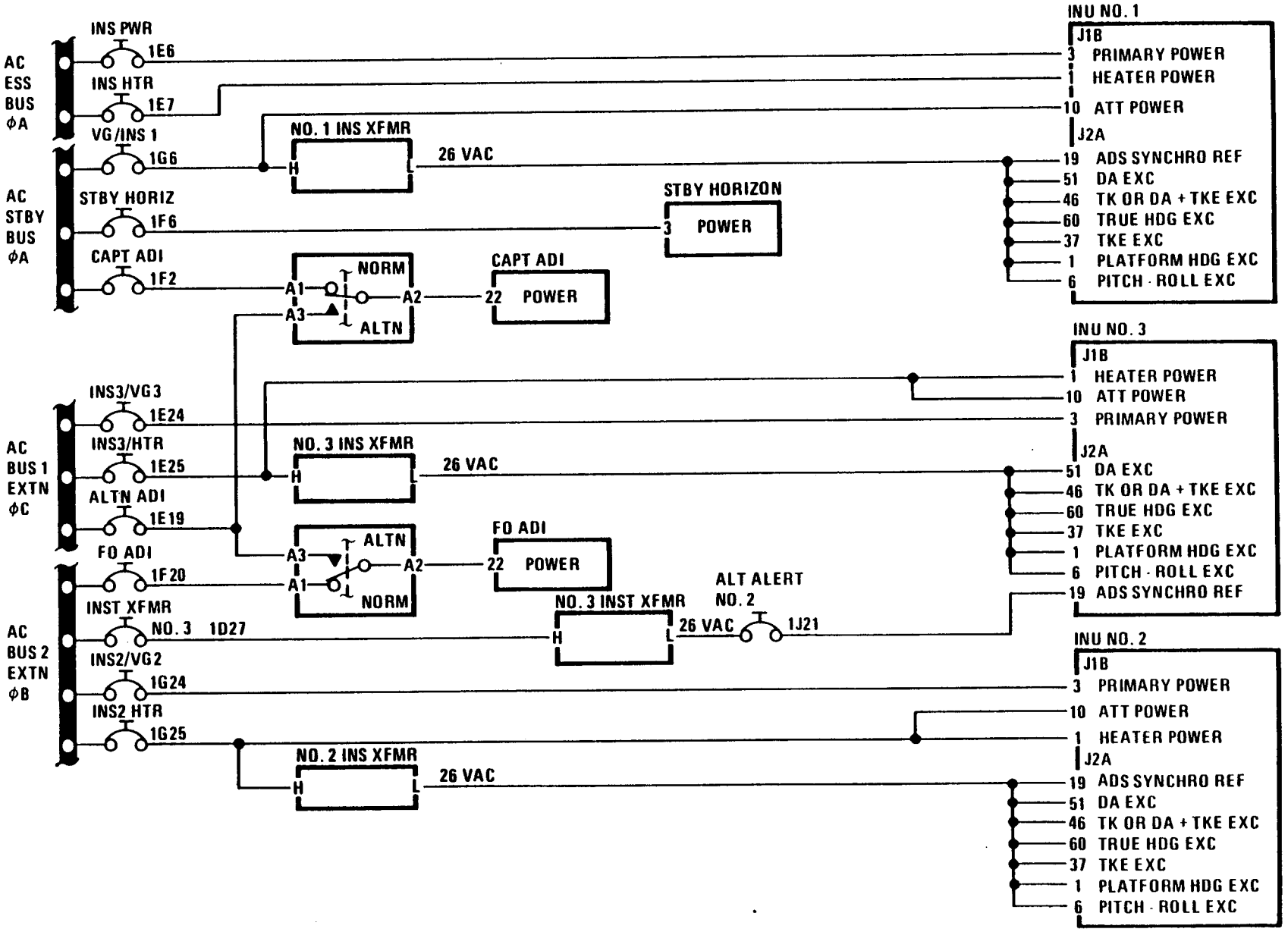
T-34-21-0000-136

ATTITUDE REFERENCE SYSTEM INTERFACE

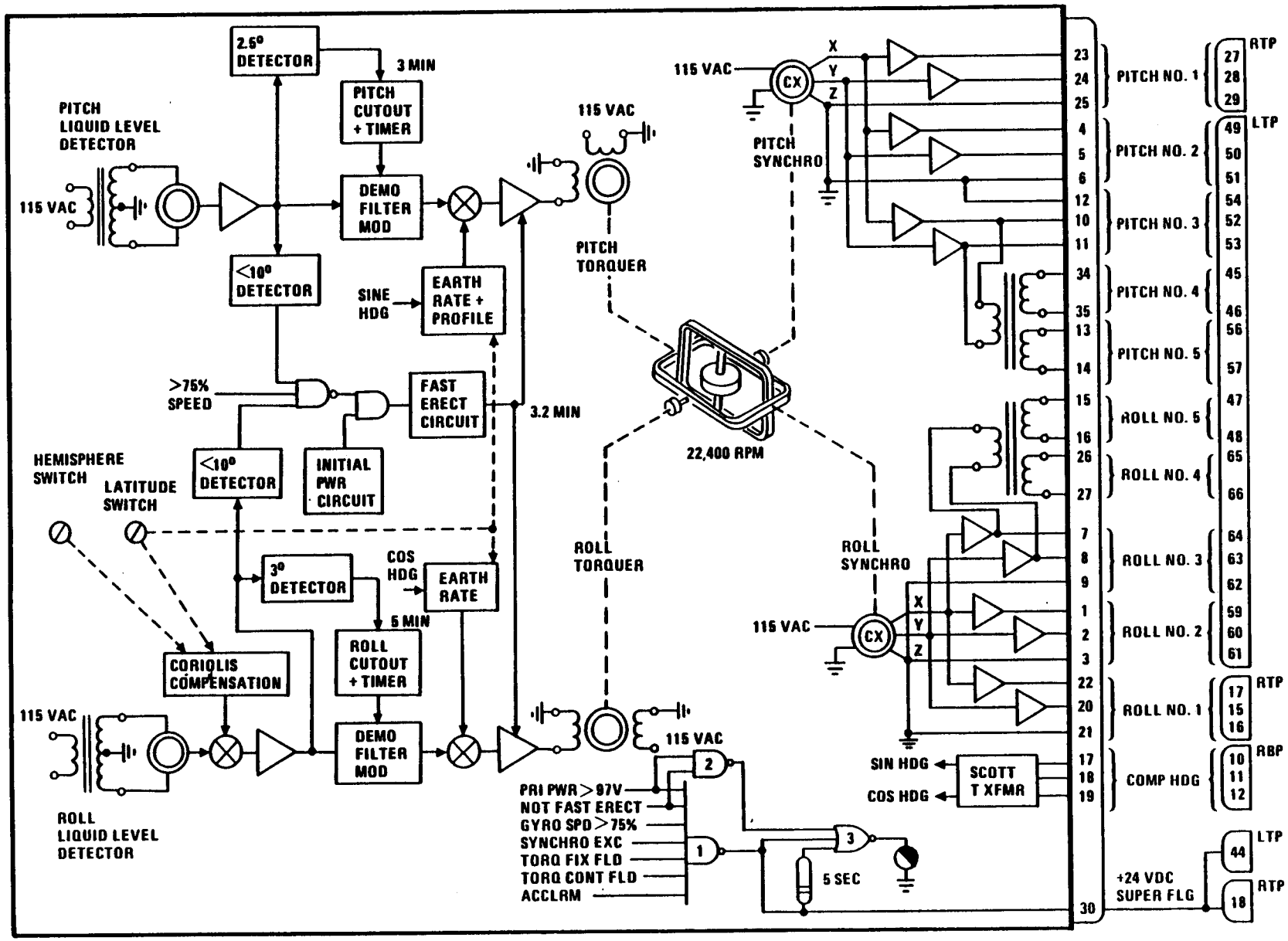
L-1011
3/74



T-34-21-0004-110 **ATTITUDE REFERENCE SYSTEM POWER DISTRIBUTION** L-1011 10/75



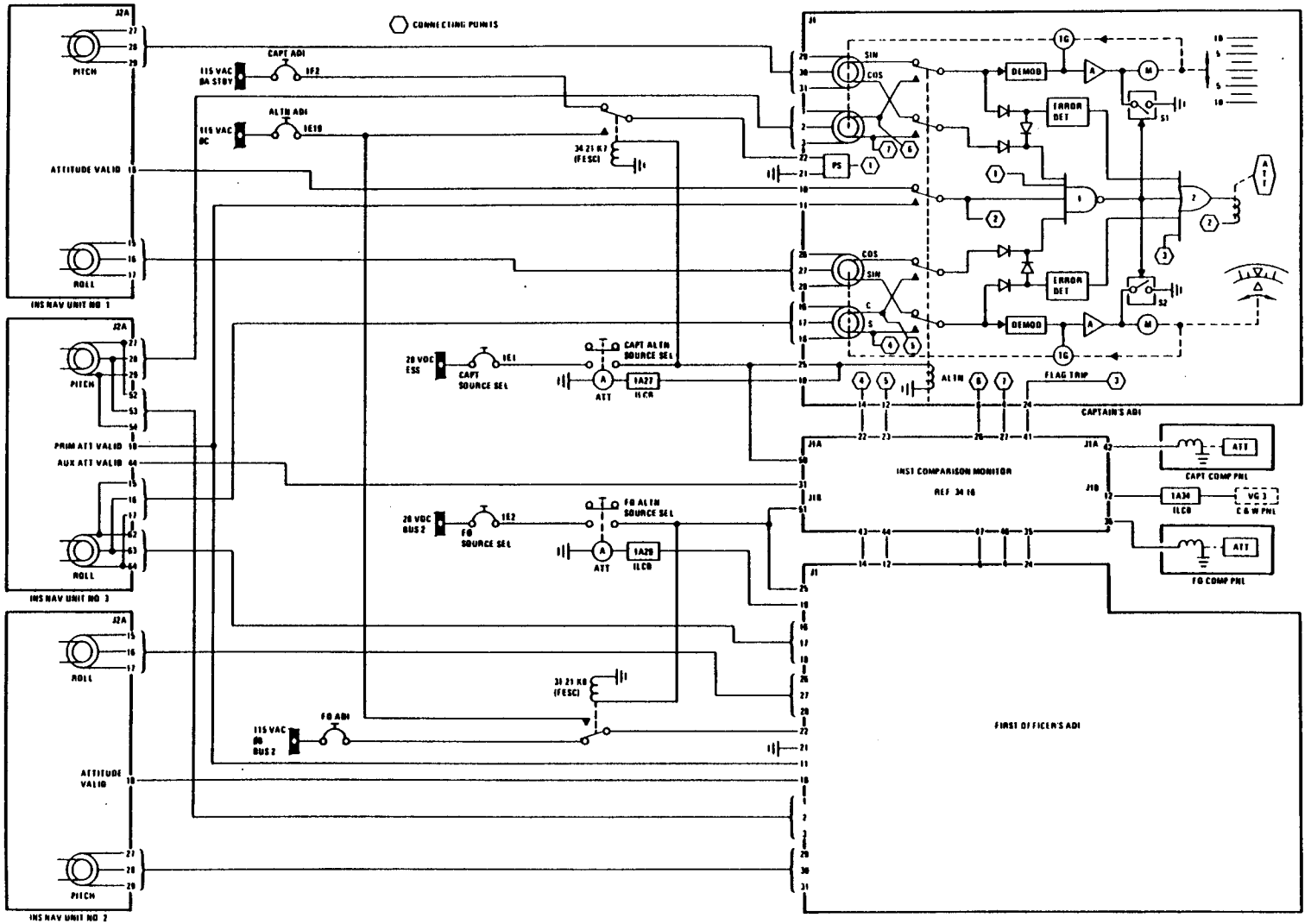
T-34-21-0000-265 **ATTITUDE REFERENCE SYSTEM POWER DISTRIBUTION** L-1011



T-34-21-0010-003

VG FUNCTIONAL DIAGRAM

L-1011
3/75

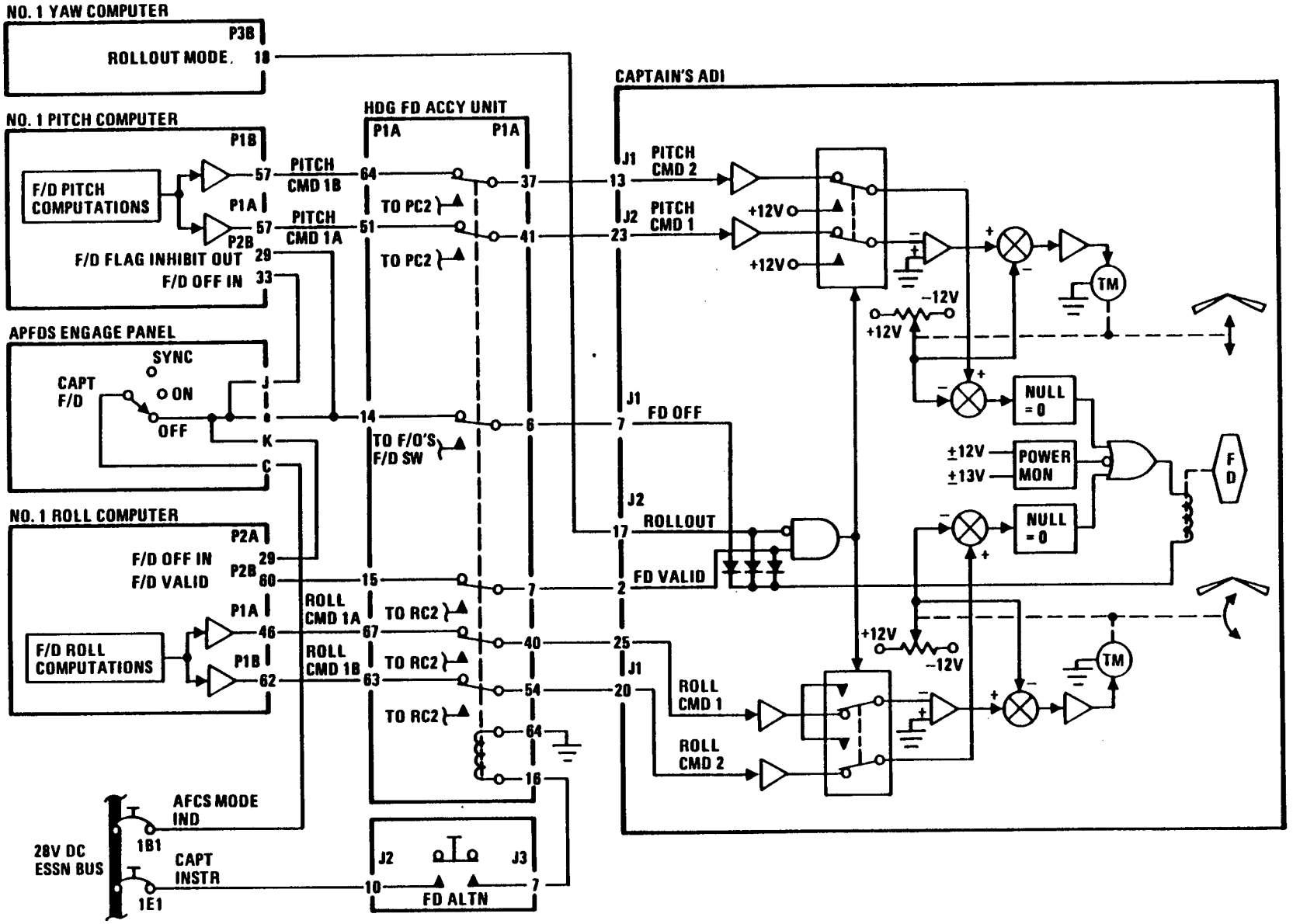


T-34-21-0000-266

ATTITUDE INDICATIONS SCHEMATIC

L-1011

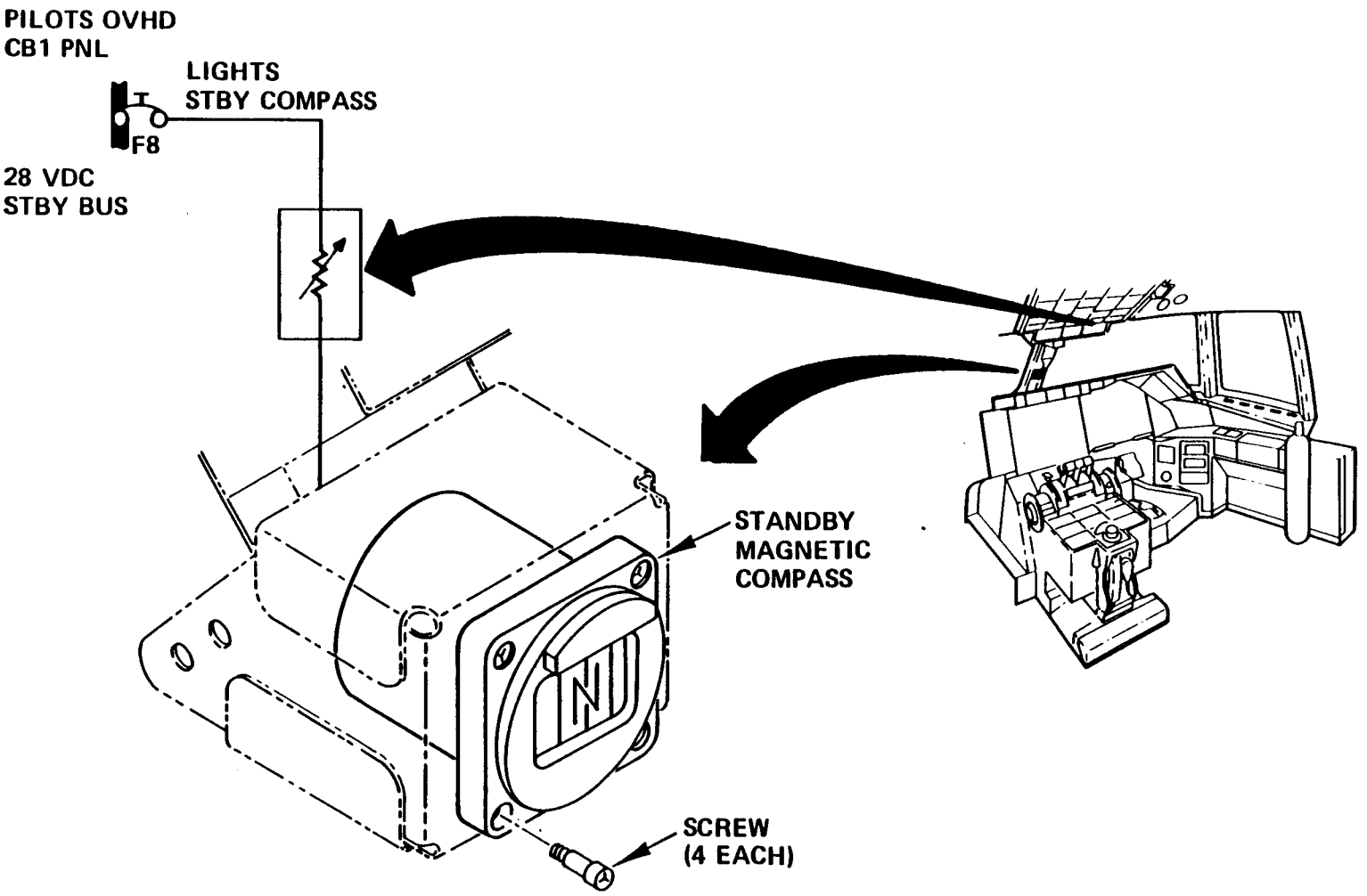
T-34-21-0000-266



T-34-21-0001-101

ADI FUNCTIONAL DIAGRAM (FLIGHT DIRECTOR)

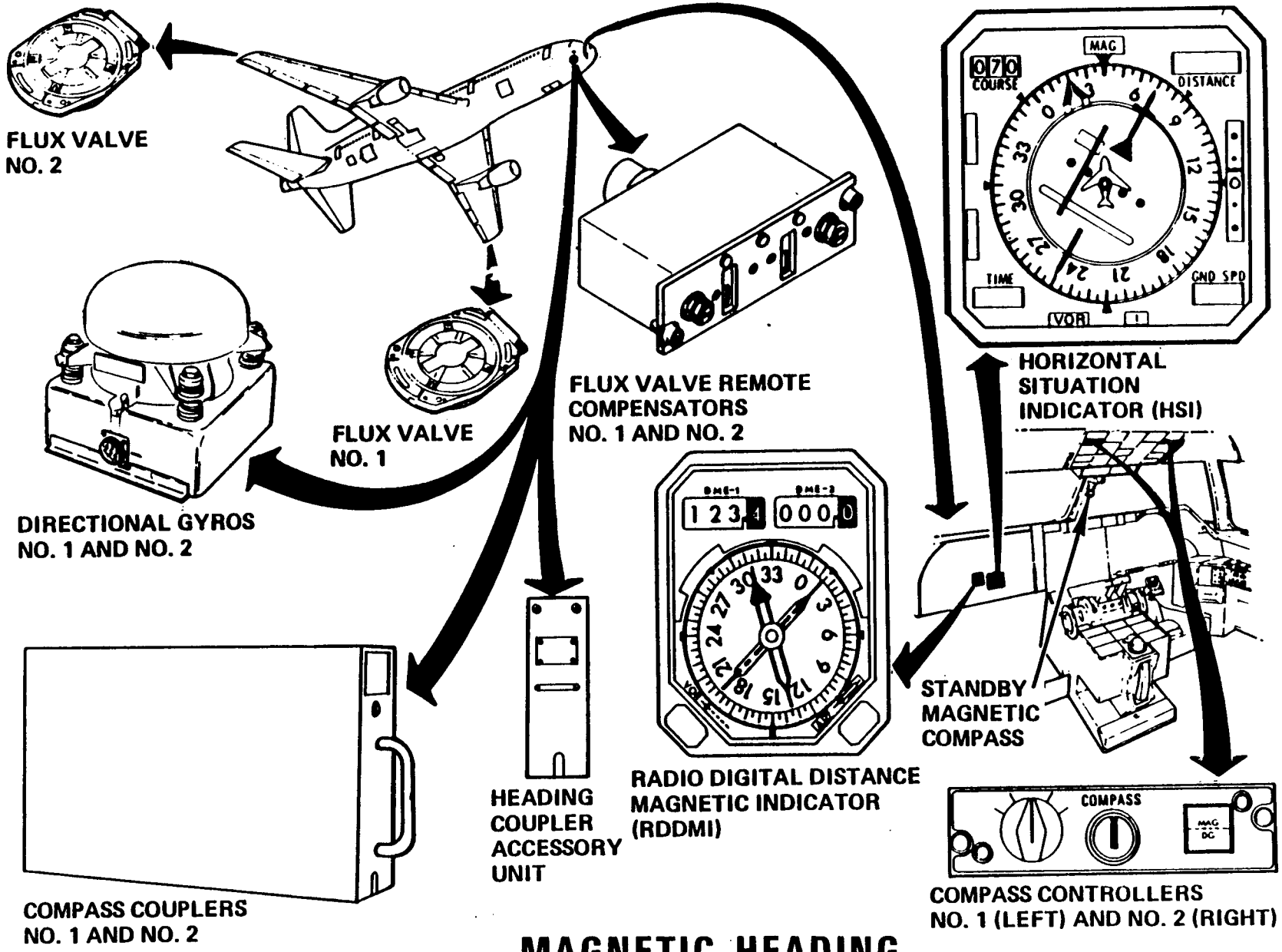
L-1011
3/77



STANDBY MAGNETIC COMPASS – LOCATION, POWER INPUT, REMOVAL AND INSTALLATION

T-34-22-0003-049

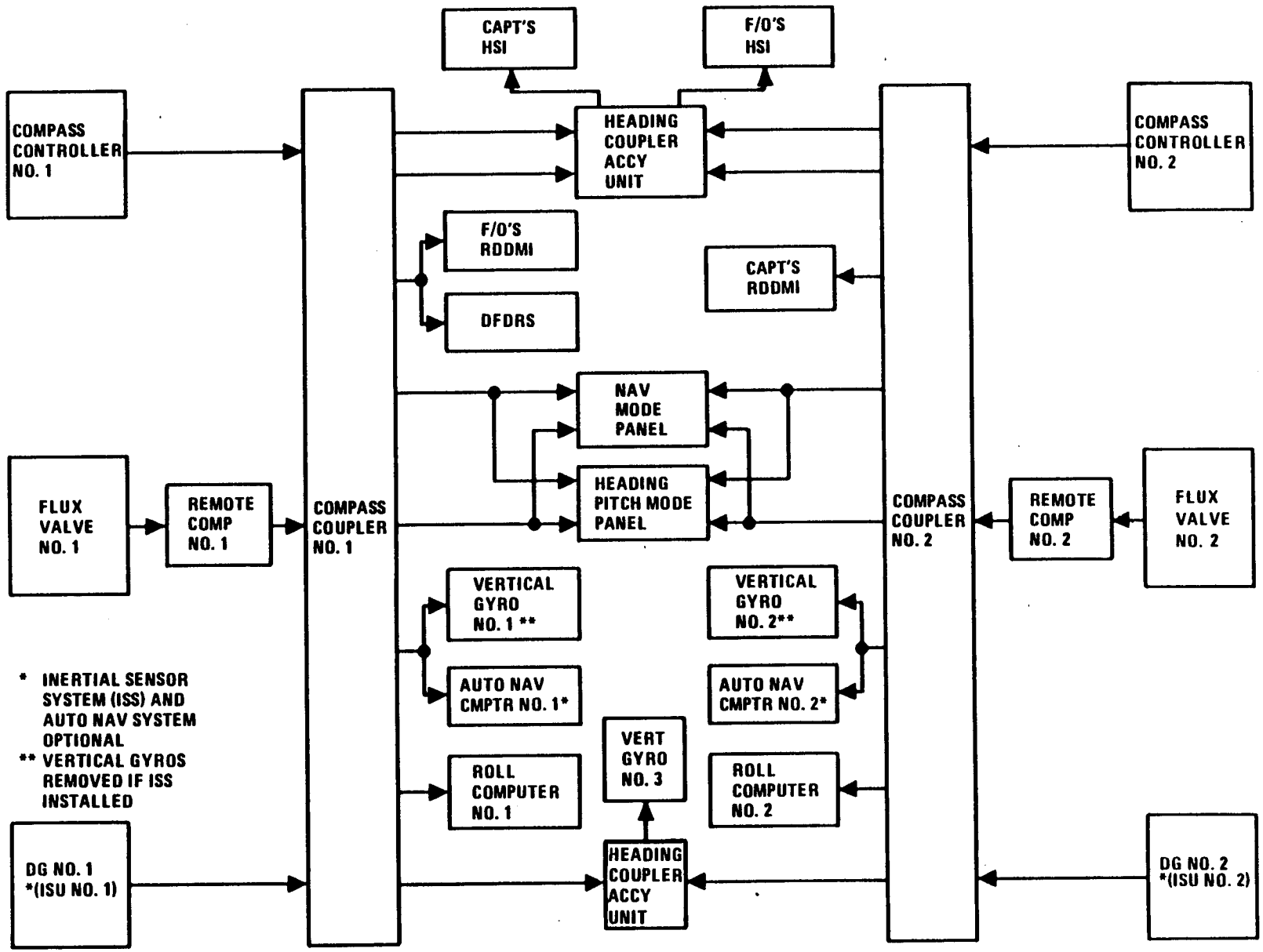
L-1011
5/73



MAGNETIC HEADING REFERENCE SYSTEM COMPONENT LOCATIONS

T-34-22-0004-006

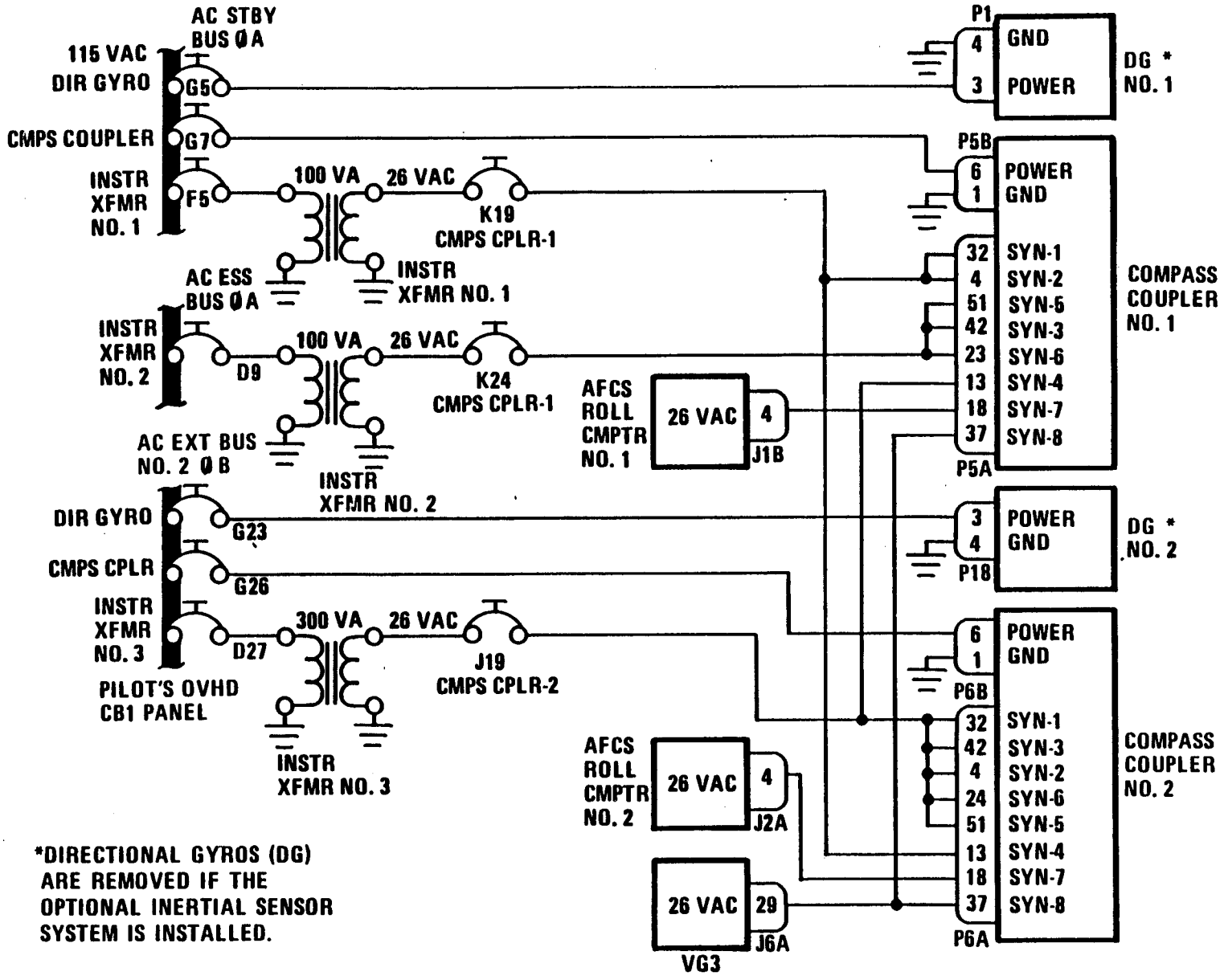
L-1011
11/74


CAPT'S HSI
F/O'S HSI
COMPASS CONTROLLER NO. 1
HEADING COUPLER ACCY UNIT
COMPASS CONTROLLER NO. 2
F/O'S RDDMI
CAPT'S RDDMI
DFDRS
NAV MODE PANEL
HEADING PITCH MODE PANEL
FLUX VALVE NO. 1
REMOTE COMP NO. 1
COMPASS COUPLER NO. 1
COMPASS COUPLER NO. 2
REMOTE COMP NO. 2
FLUX VALVE NO. 2
VERTICAL GYRO NO. 1 **
VERTICAL GYRO NO. 2**
AUTO NAV CMPTR NO. 1*
AUTO NAV CMPTR NO. 2*
VERT GYRO NO. 3
ROLL COMPUTER NO. 1
ROLL COMPUTER NO. 2
HEADING COUPLER ACCY UNIT
DG NO. 1 *(ISU NO. 1)
DG NO. 2 *(ISU NO. 2)
* INERTIAL SENSOR SYSTEM (ISS) AND AUTO NAV SYSTEM OPTIONAL
** VERTICAL GYROS REMOVED IF ISS INSTALLED

MAGNETIC HEADING REFERENCE SYSTEM BLOCK DIAGRAM

T-34-22-0004-108

L-1011
6/74

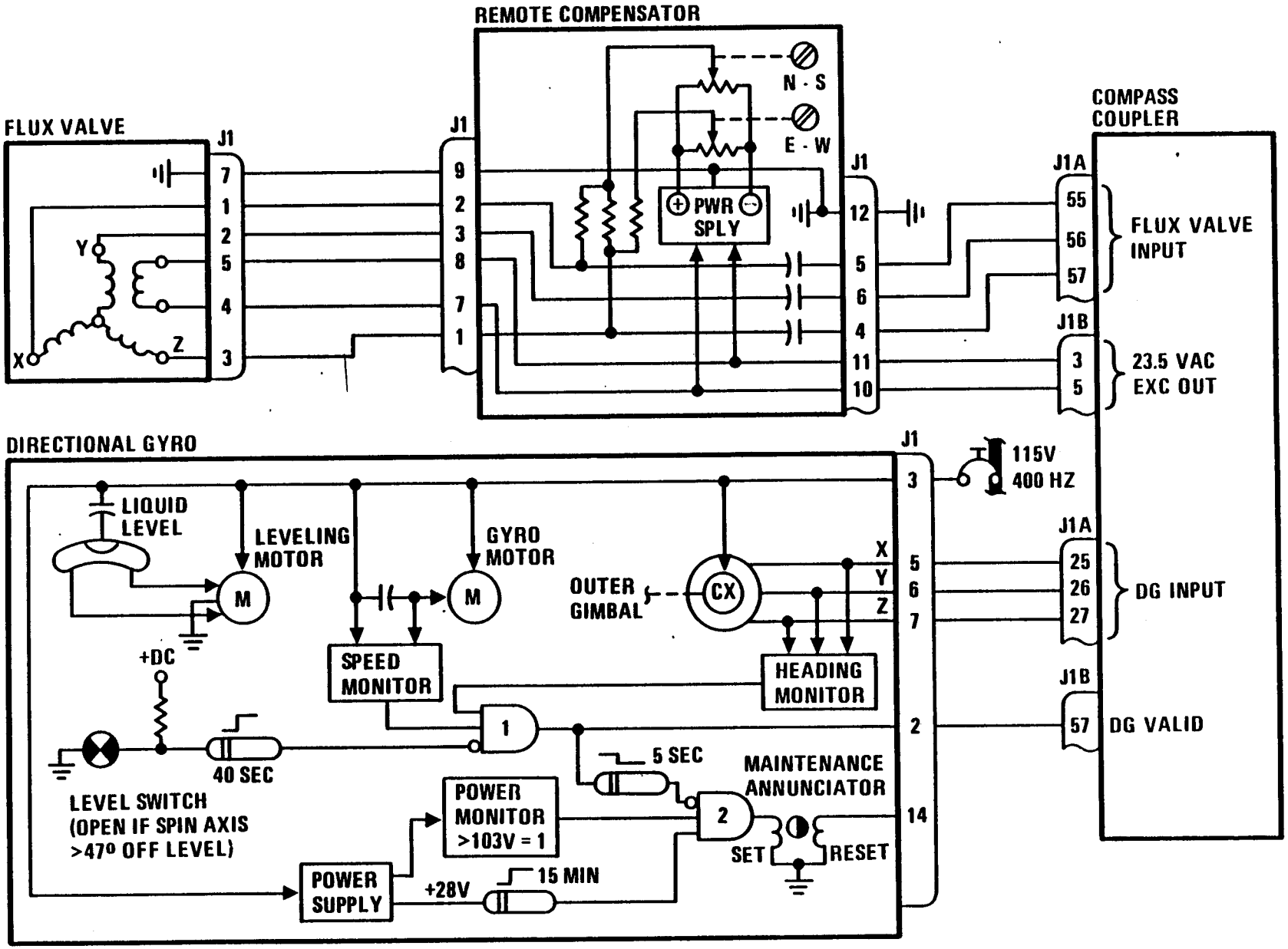


*DIRECTIONAL GYROS (DG) ARE REMOVED IF THE OPTIONAL INERTIAL SENSOR SYSTEM IS INSTALLED.

T-34-22-0006-039

MHRS PRIMARY POWER DISTRIBUTION

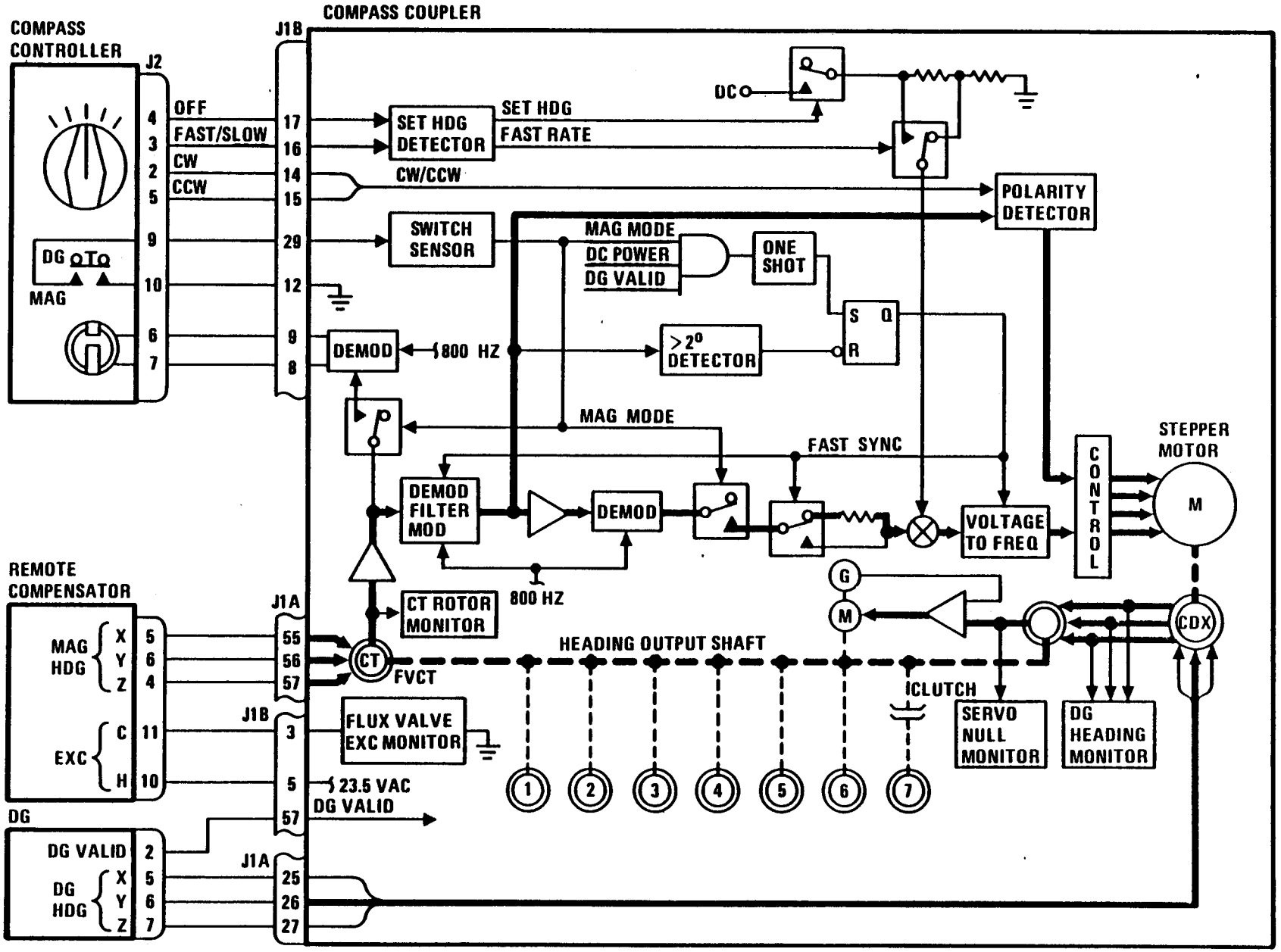
L-1011
2/75



T-34-22-0008-042

MHRS FUNCTIONAL DIAGRAM — SHEET 1

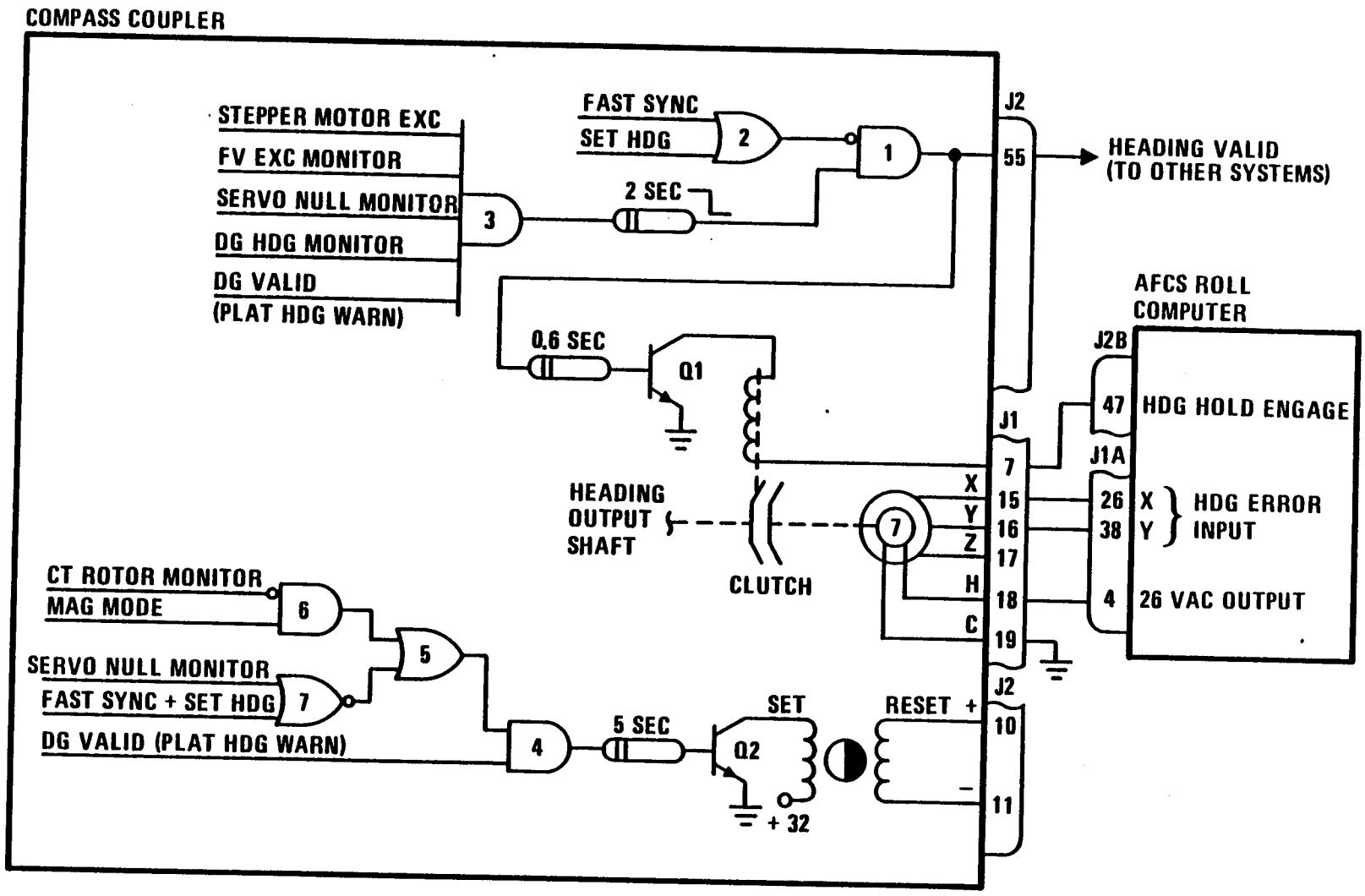
L-1011
1/77



T-34-22-0006-102

MHRS FUNCTIONAL DIAGRAM – SHEET 2

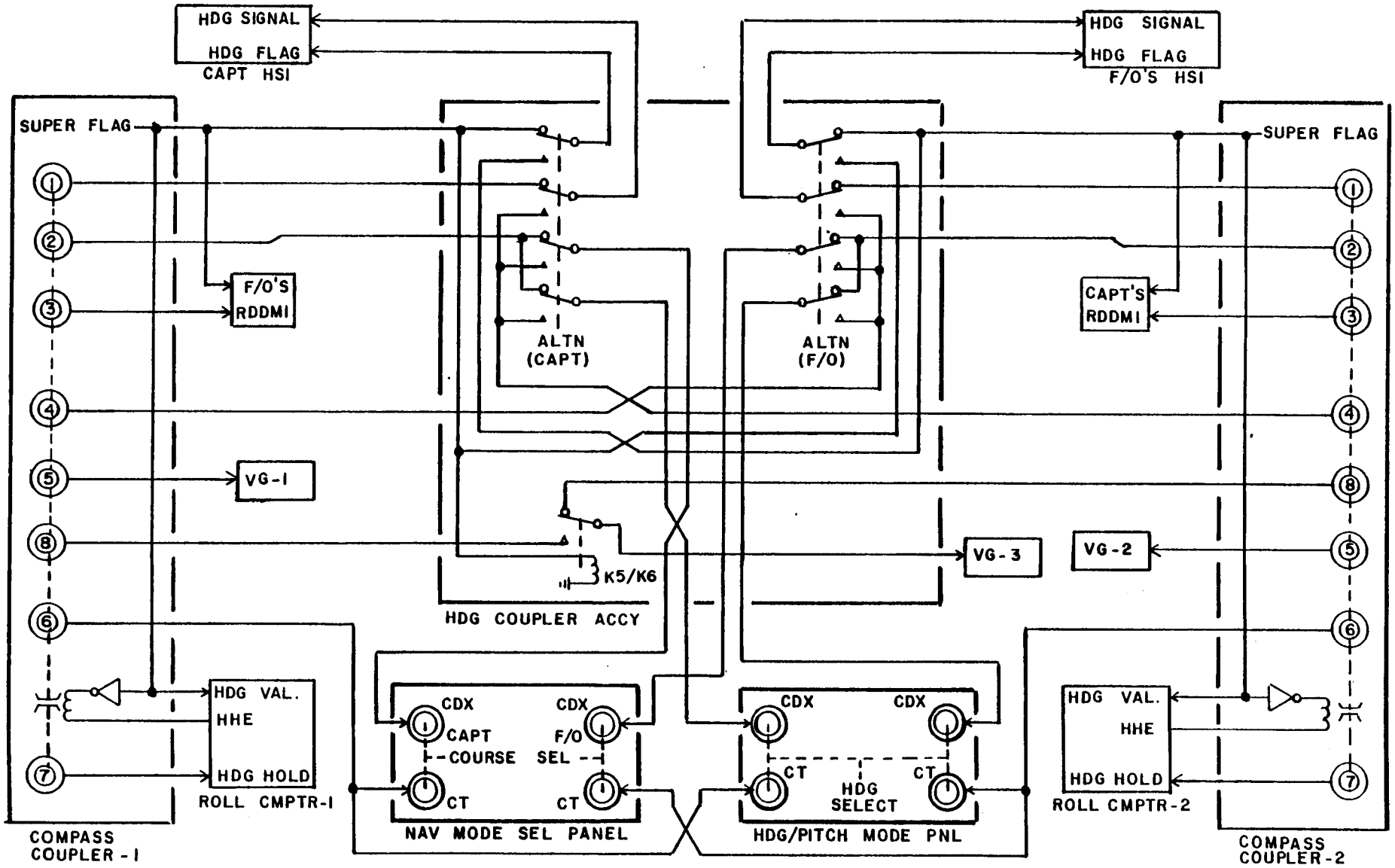
L-1011
1/77



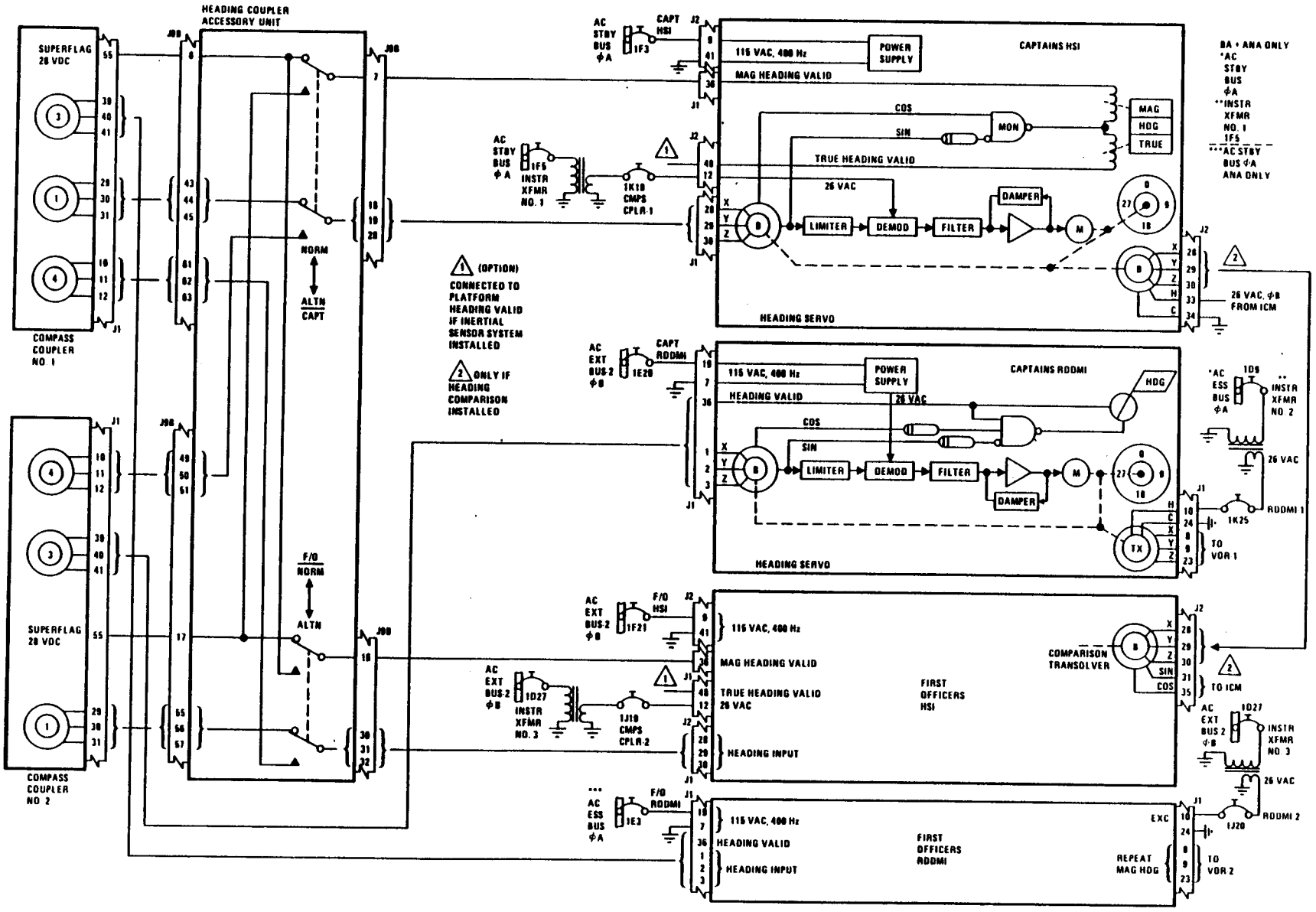
T-34-22-0000-179

MHRS MONITORING DIAGRAM

L-1011
1/77



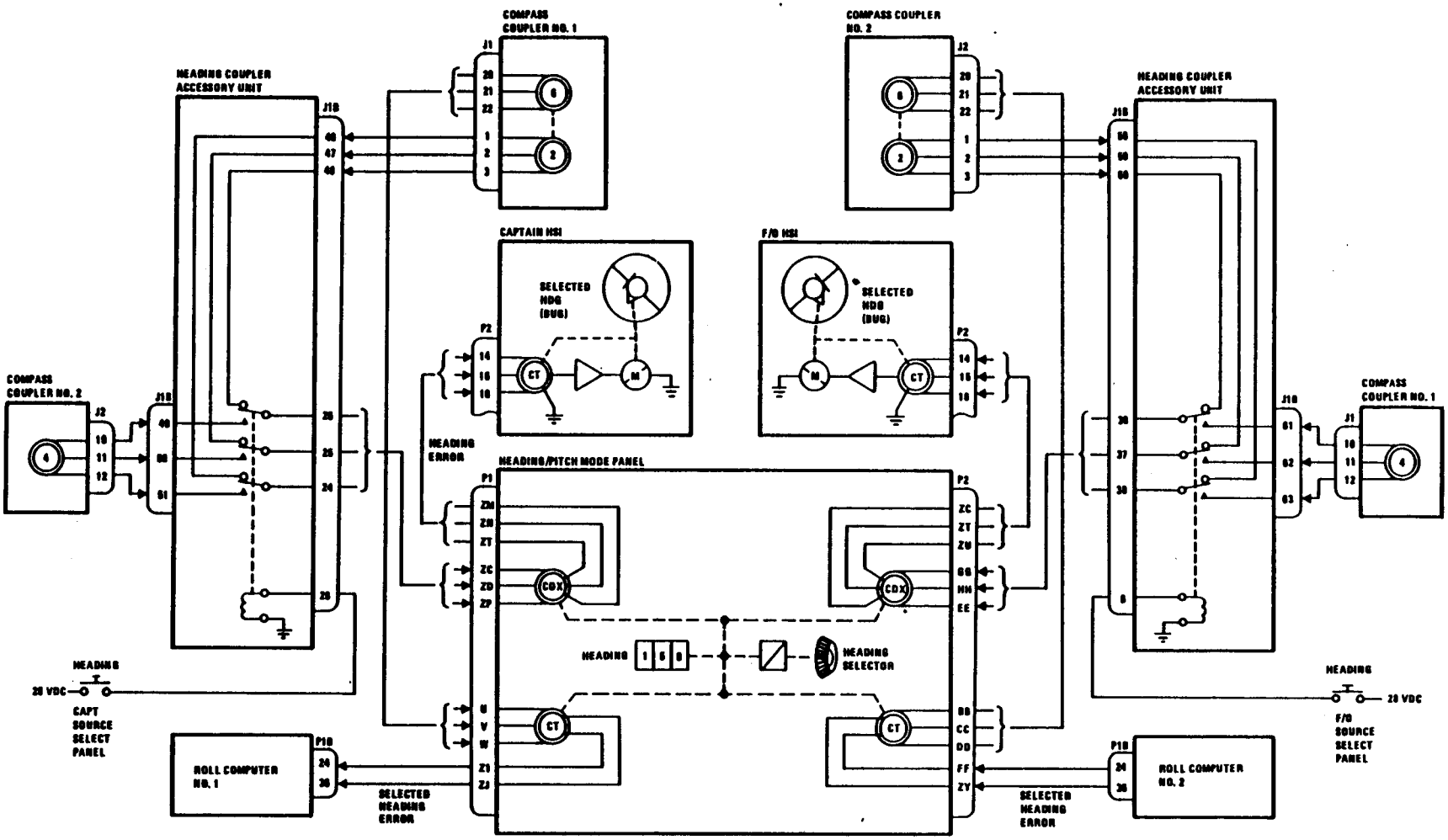
T34-22-127TW MAGNETIC HEADING REFERENCE SYSTEM INTERFACE



T-34-22-0001-142

HSI-RDDMI FUNCTIONAL DIAGRAM (HEADING)

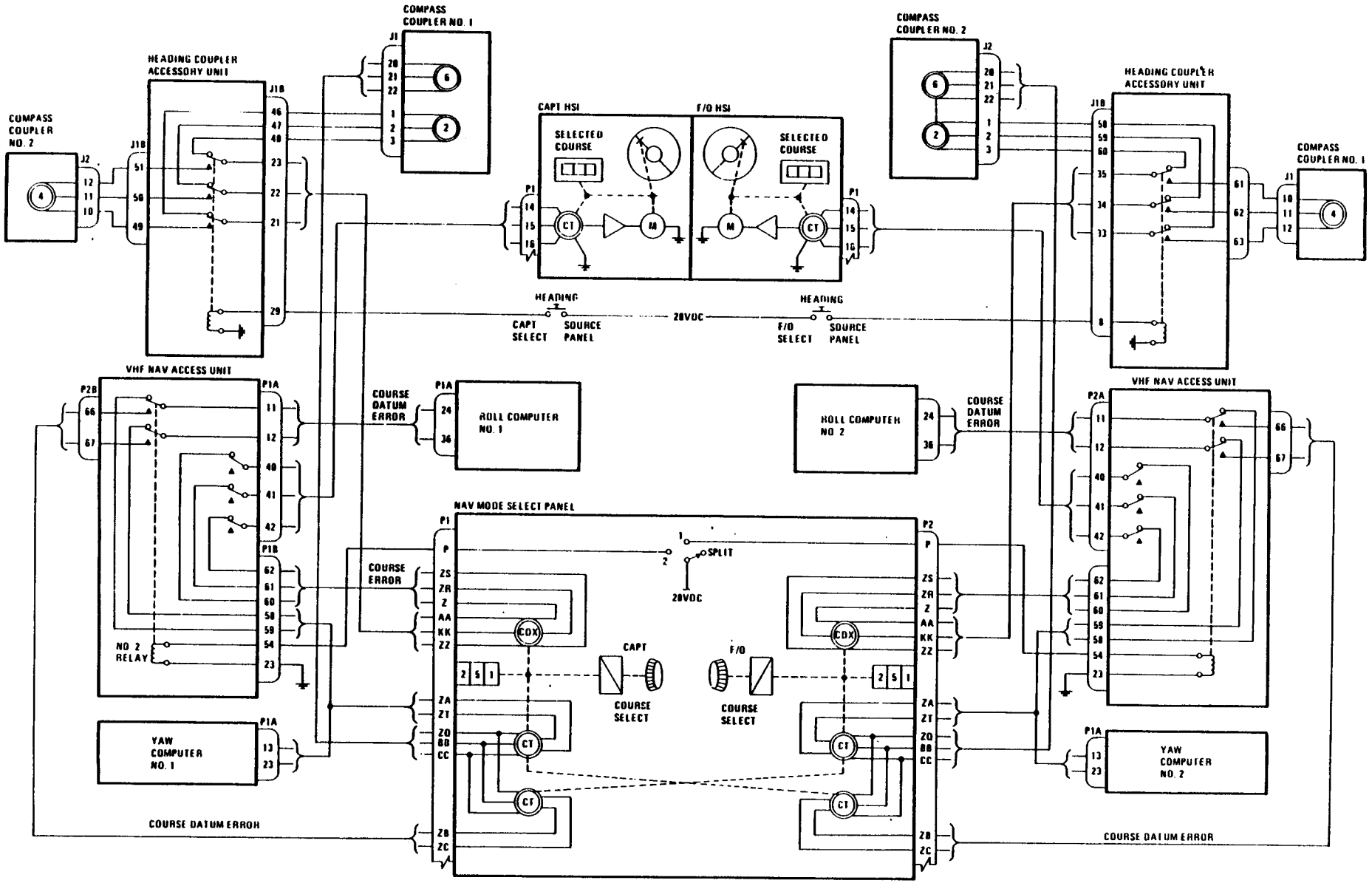
L-1011
11/74



T-34-22-0002-115

MHRS-HEADING PITCH MODE PANEL INTERFACE

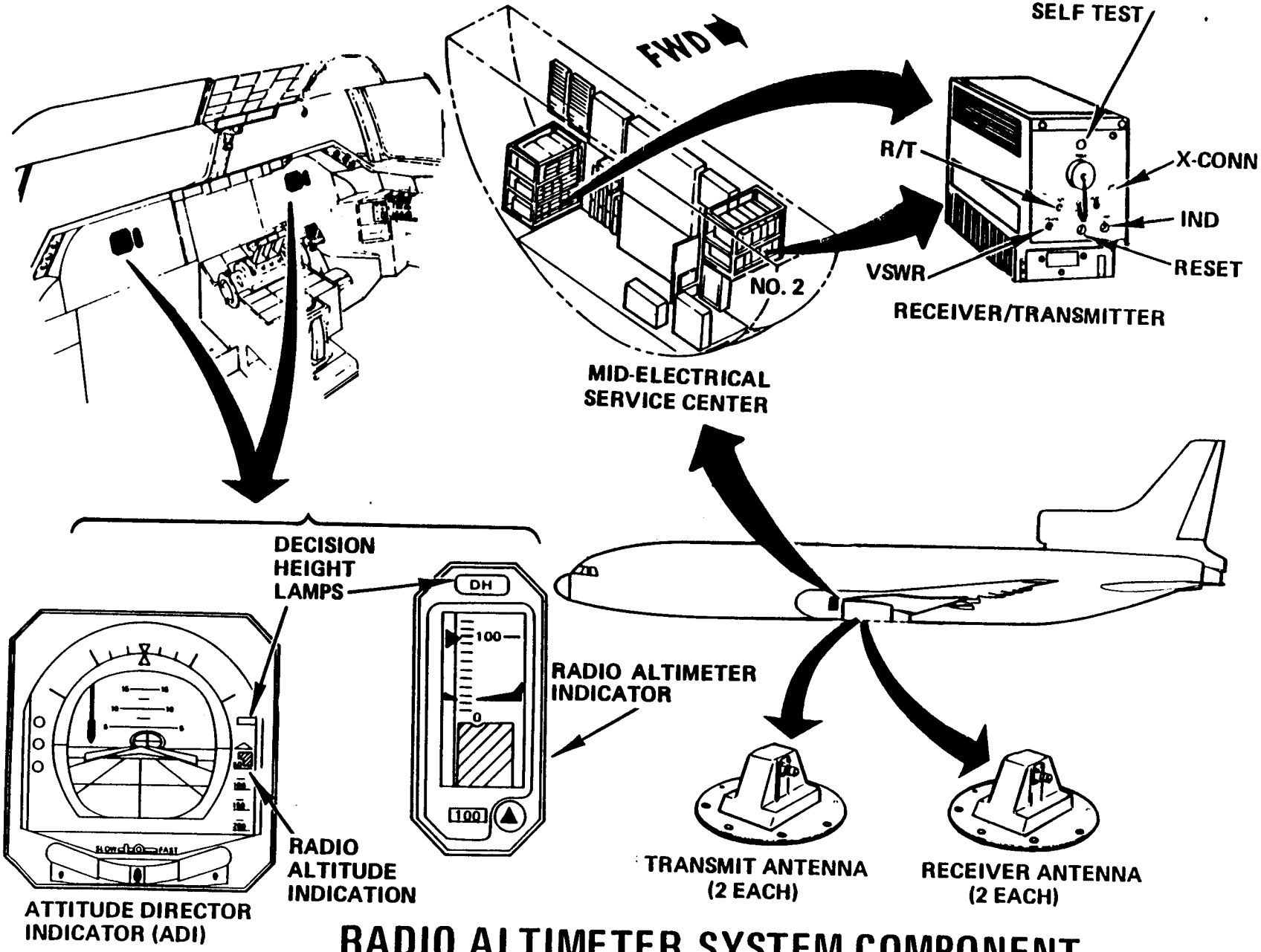
L-1011
12/74



T-34-22-0000-152

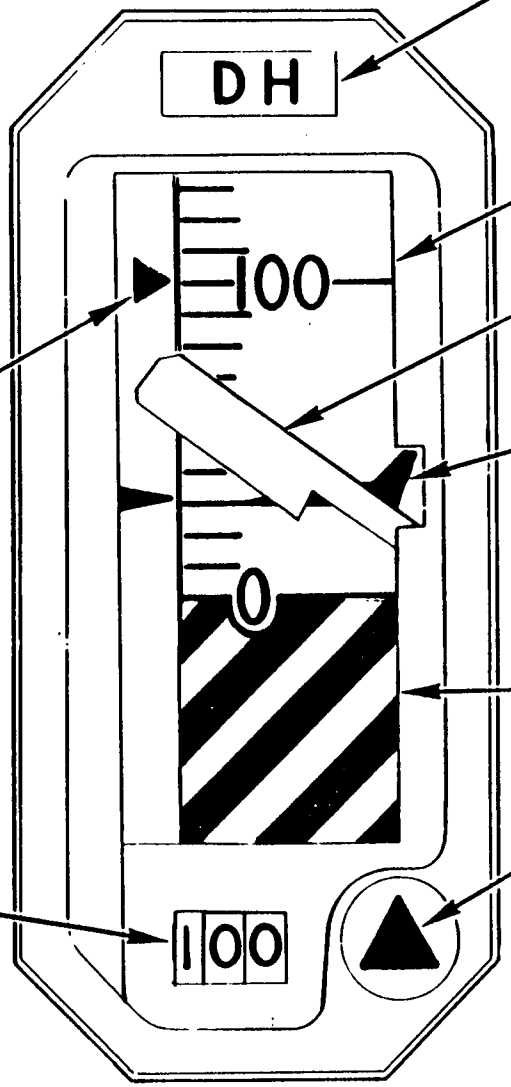
MHRS—NAV MODE SELECT PANEL INTERFACE

L-1011
12/74



RADIO ALTIMETER SYSTEM COMPONENT LOCATION DIAGRAM

T-34-32-0002-040



DH SWITCH LIGHT
AND TRIP RESET.
WHEN PUSHED WILL
EXTINGUISH DH LIGHT

ALTITUDE TAPE
VERTICAL, SERVO CONTROLLED
RANGE 0-2500 FEET

FLAG
COLOR - DAY GLO FIRE ORANGE
DROPS INDICATING A PROBLEM
WITHIN R/T UNIT OR INDICATOR.

AIRCRAFT REFERENCE SYMBOL
COLOR - ARC YELLOW

RAMP ALTITUDE – 5 FEET
DUE TO SETTLING OF
AIRCRAFT ON LANDING
GEAR

ALTERNATE BLACK AND
YELLOW STRIPES.

DH INDEX CONTROL KNOB
SETS DH COUNTER AND
DH INDEX

ALTITUDE TAPE COLOR-
0-500 FT. GREEN
500-2500 FT. BLUE
ABOVE 2500 FT. BLACK

DH INDEX TAPE
MOVES BY DH
INDEX CONTROL KNOB,
MOVING DH INDEX OPPOSITE
SET IN DH ALTITUDE

DH COUNTER
DH RANGE
0-499 FEET

DH (DECISION HEIGHT)

RADIO ALTITUDE INDICATOR, CONTROLS AND INDICATIONS

T-34-32-0203-041

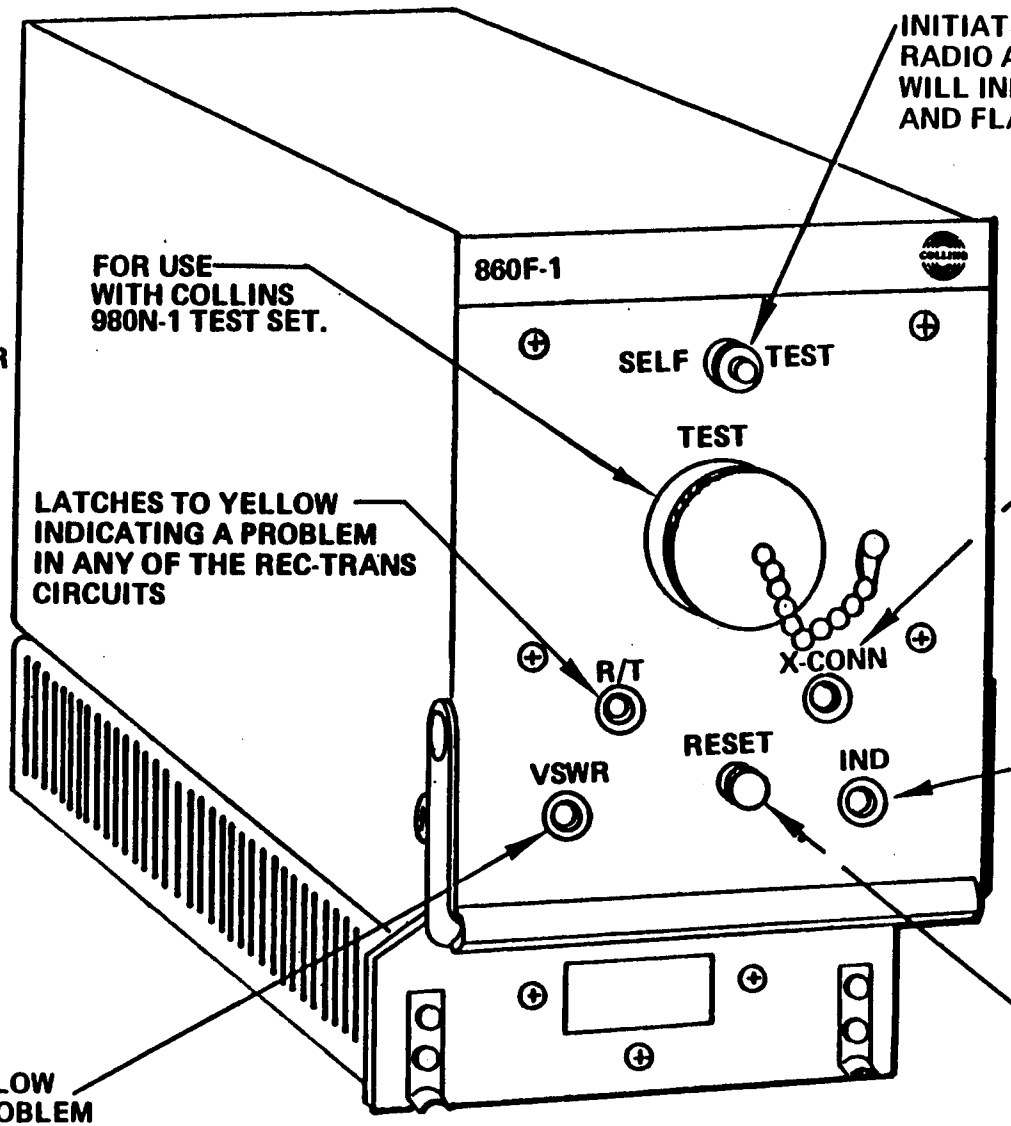
L-1011
4/72

POWER OUTPUT –
½ WATT

FREQUENCY –
4300 MHZ ± 50 MHZ
CW FM

ACCURACY –
-20 TO 500 FT.
± 2 FT. OR ± 2 %
WHICHEVER GREATER

500 TO 2500 FT.
± 5 %



INITIATES SELF TEST
RADIO ALTITUDE INDICATOR
WILL INDICATE 30 FT.
AND FLAG WILL APPEAR

FOR USE
WITH COLLINS
980N-1 TEST SET.

LATCHES TO YELLOW
INDICATING A PROBLEM
IN ANY OF THE REC-TRANS
CIRCUITS

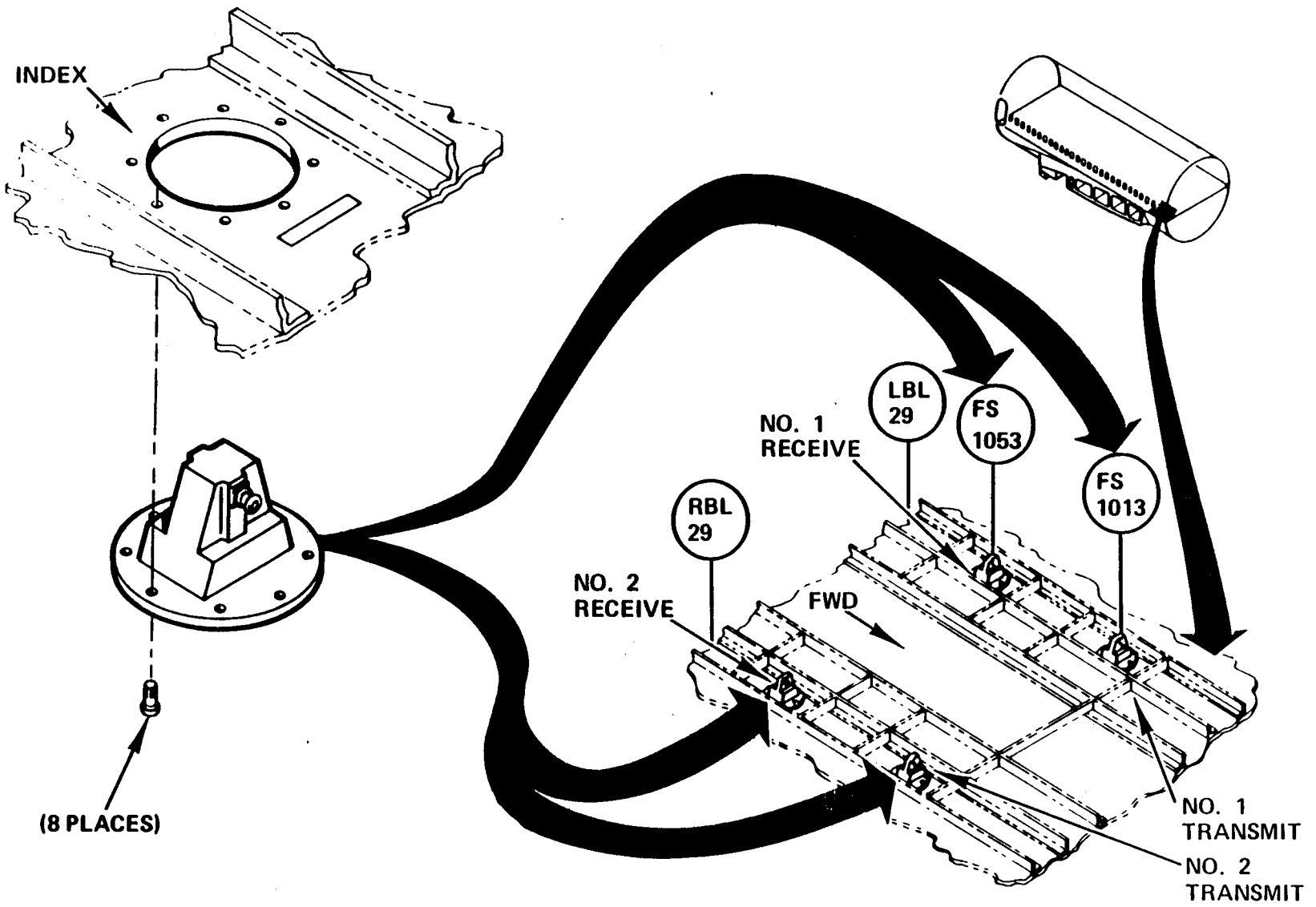
LATCHES TO YELLOW
INDICATING A PROBLEM
IN MODULATOR PHASING
BETWEEN UNITS

LATCHES TO YELLOW
INDICATING A PROBLEM
IN ALTITUDE INDICATOR

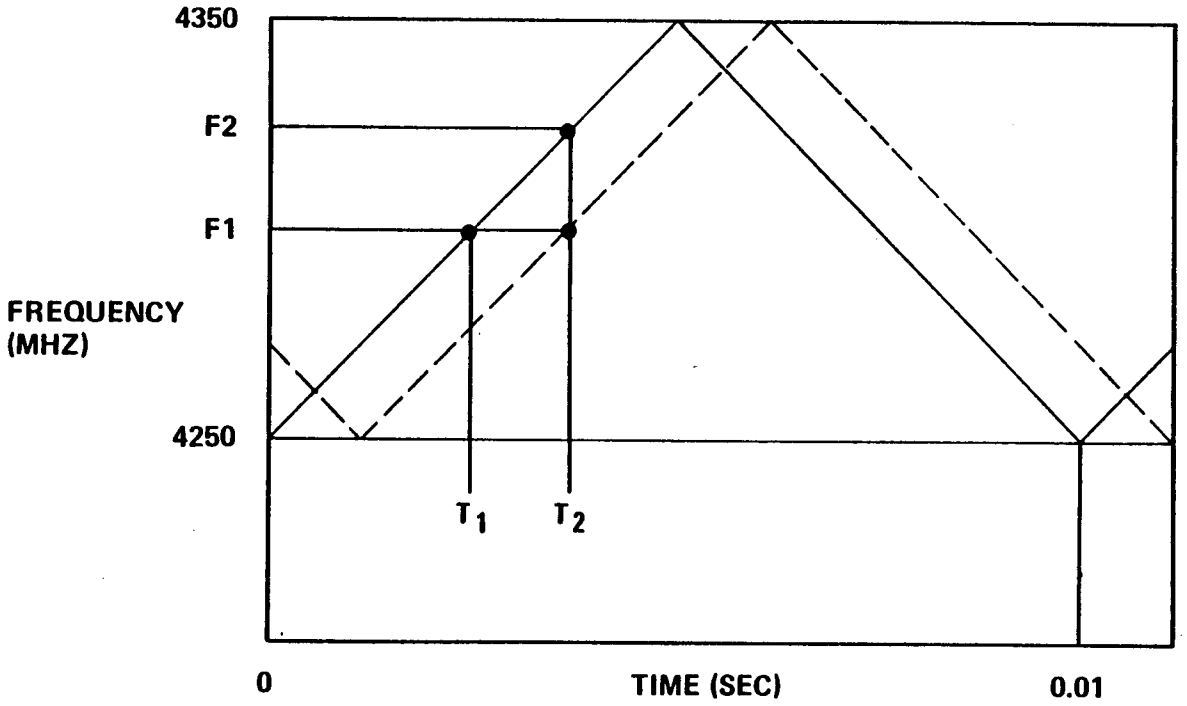
LATCHES TO YELLOW
INDICATING A PROBLEM
IN ANTENNA CIRCUITS.
VSWR SAMPLED EVERY
4 SECONDS ABOVE 2500 FT.

RESETS ALL BUT R/T
ANNUNCIATOR. R/T
RESET BY SHORTING PINS
11 AND 12 ON J-4 INSIDE
UNIT, THEN PUSHING
RESET BUTTON.

860F-1 RADIO ALTIMETER



RADIO ALTIMETER ANTENNA – REMOVAL & INSTALLATION



$T_2 - T_1$ = TRANSIT TIME (AIRCRAFT TO GROUND AND RETURN)

$F_2 - F_1$ = DIFFERENCE FREQUENCY (ANALOG OF ALTITUDE)

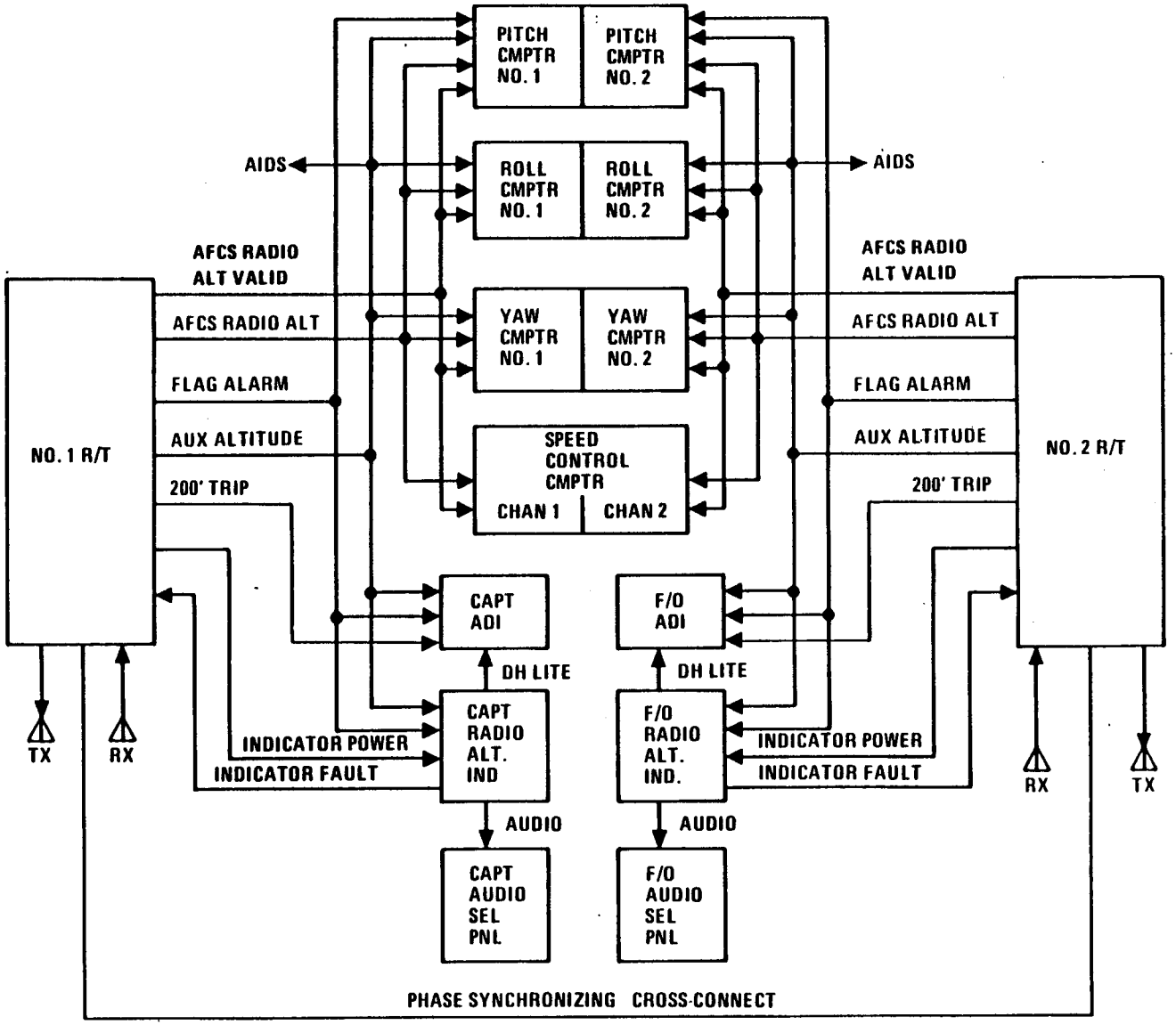
———— TRANSMIT SIGNAL

– – – – – – – RECEIVE SIGNAL

RADIO ALTIMETER OPERATION GRAPH

T-34-32-0101-042

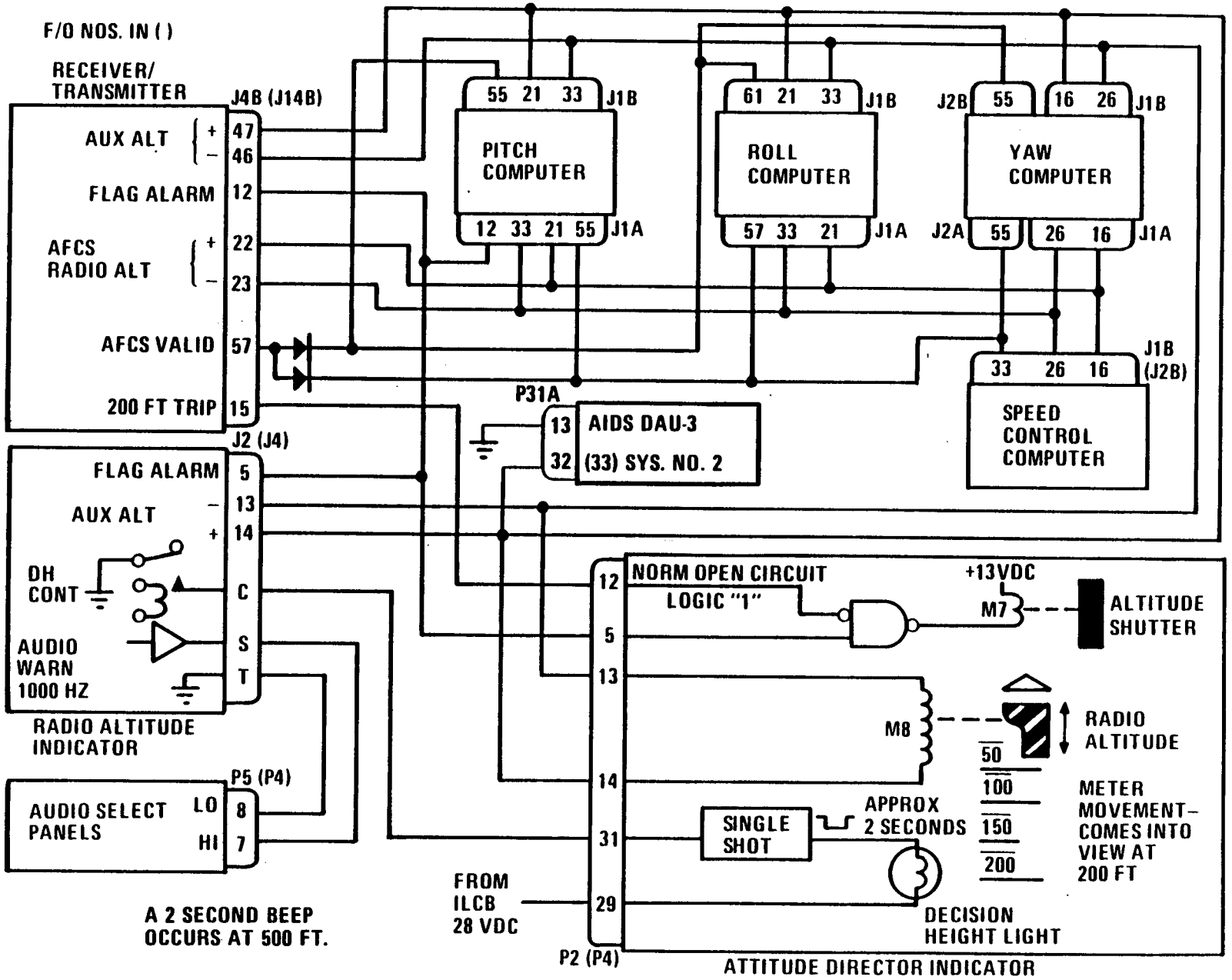
L-1011
11/71



T-34-32-0003-015

RADIO ALTIMETER SYSTEM BLOCK DIAGRAM

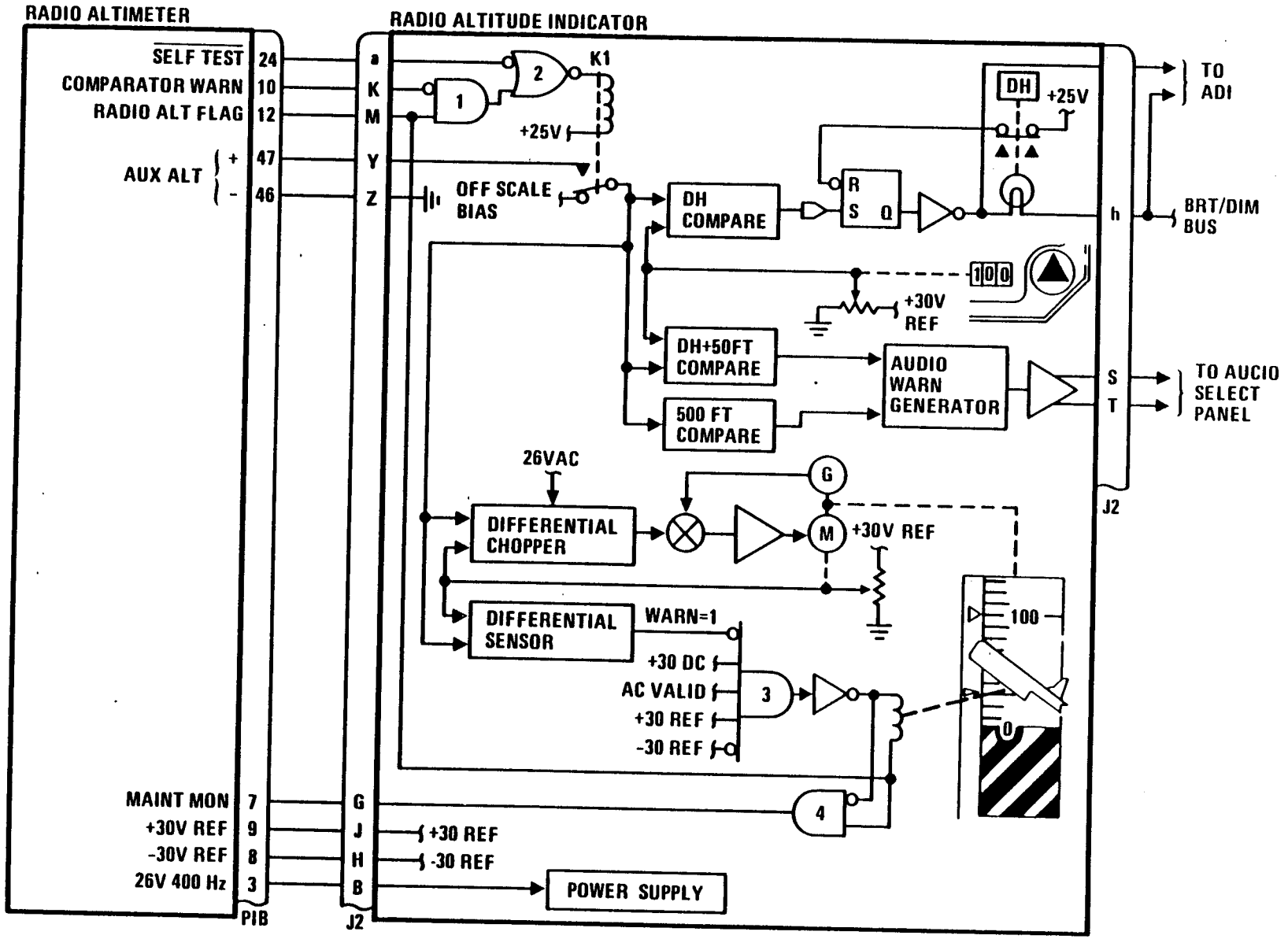
L-1011
8/73



T-34-32-0005-089

RADIO ALTIMETER SYSTEM INTERFACE DIAGRAM

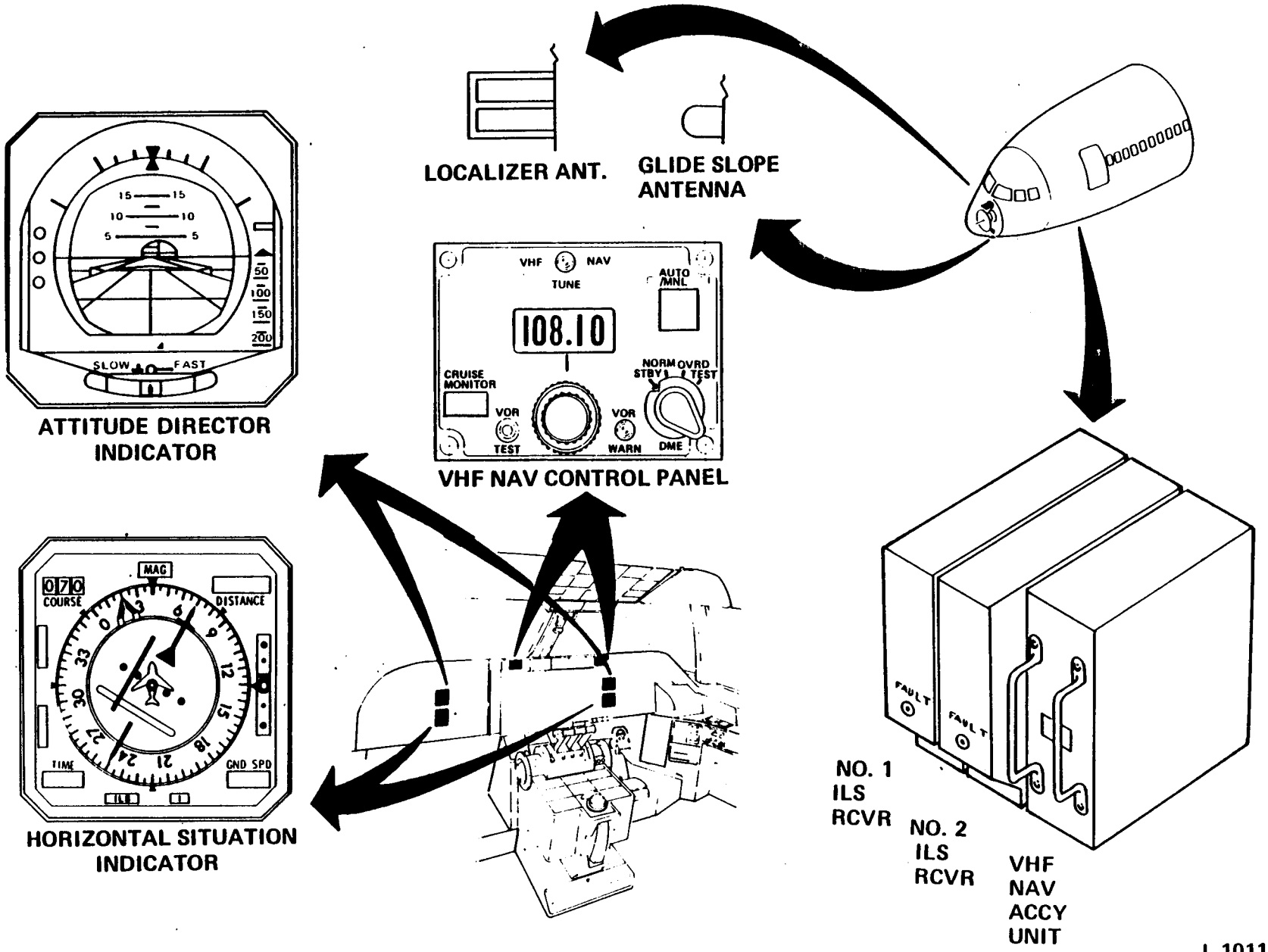
L-1011
10/73



T-34-32-0001-135

RADIO ALTITUDE INDICATOR FUNCTIONAL DIAGRAM

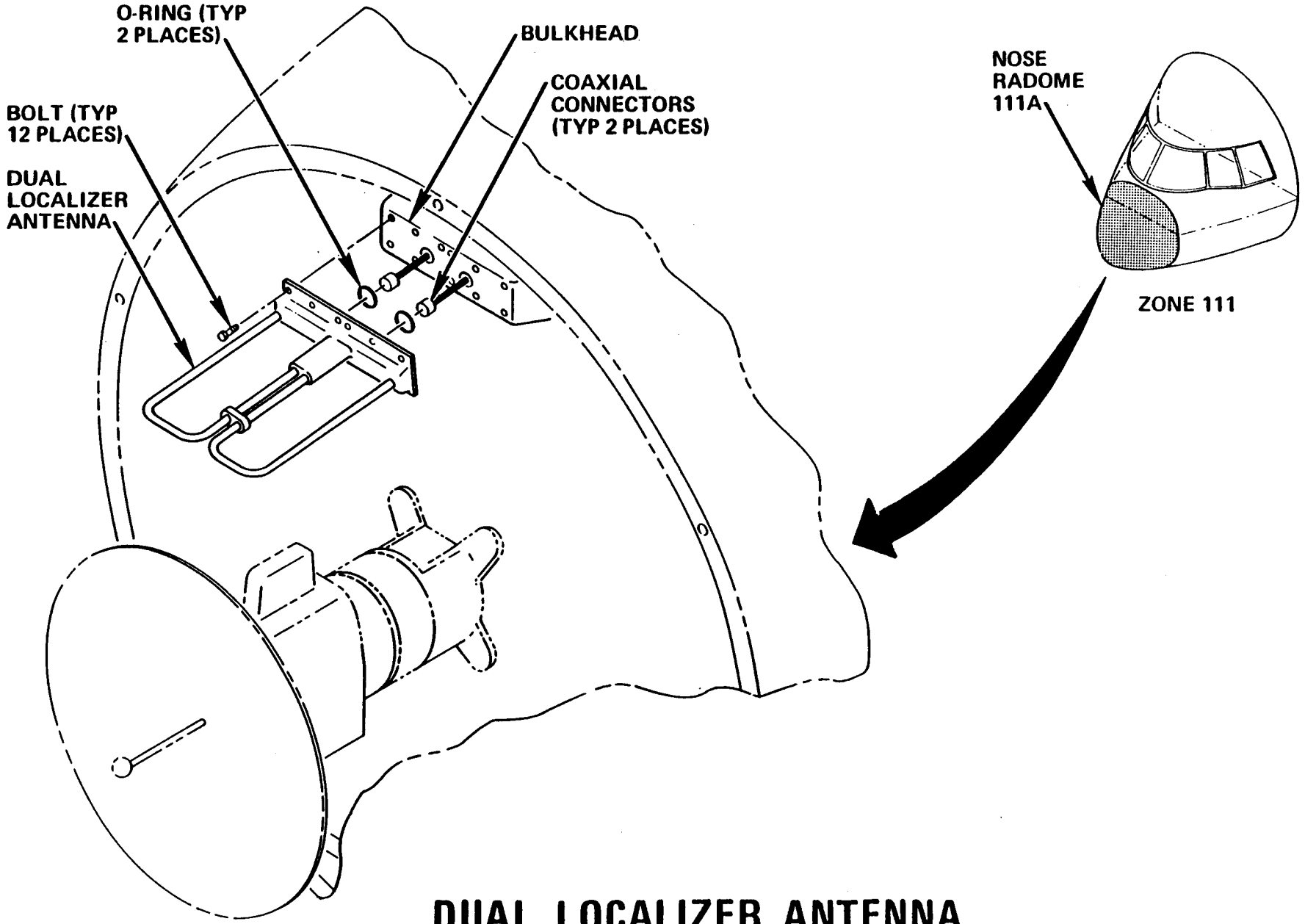
L-1011
2/77



T-34-33-0003-010

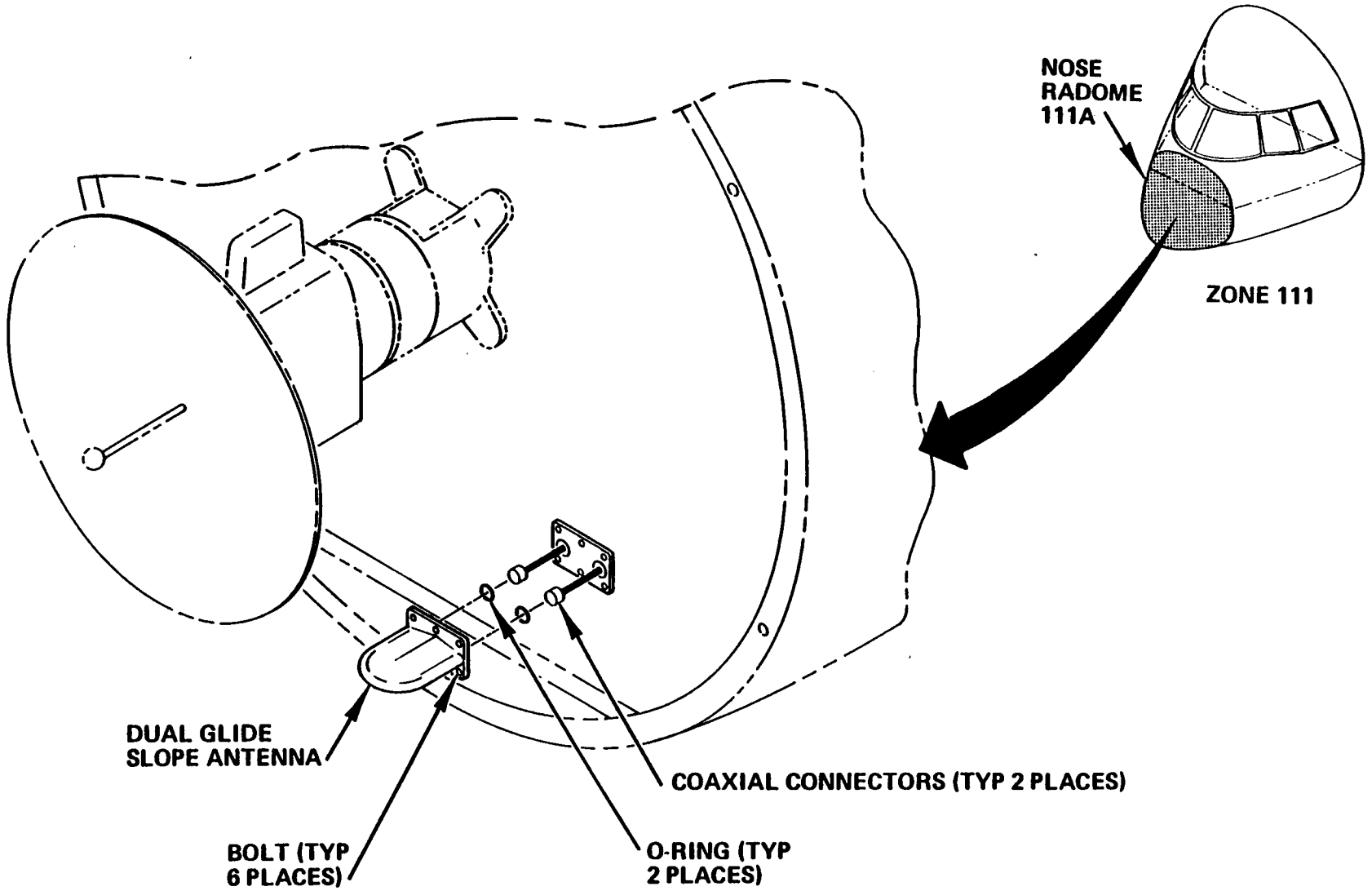
ILS COMPONENT LOCATION DIAGRAM

L-1011
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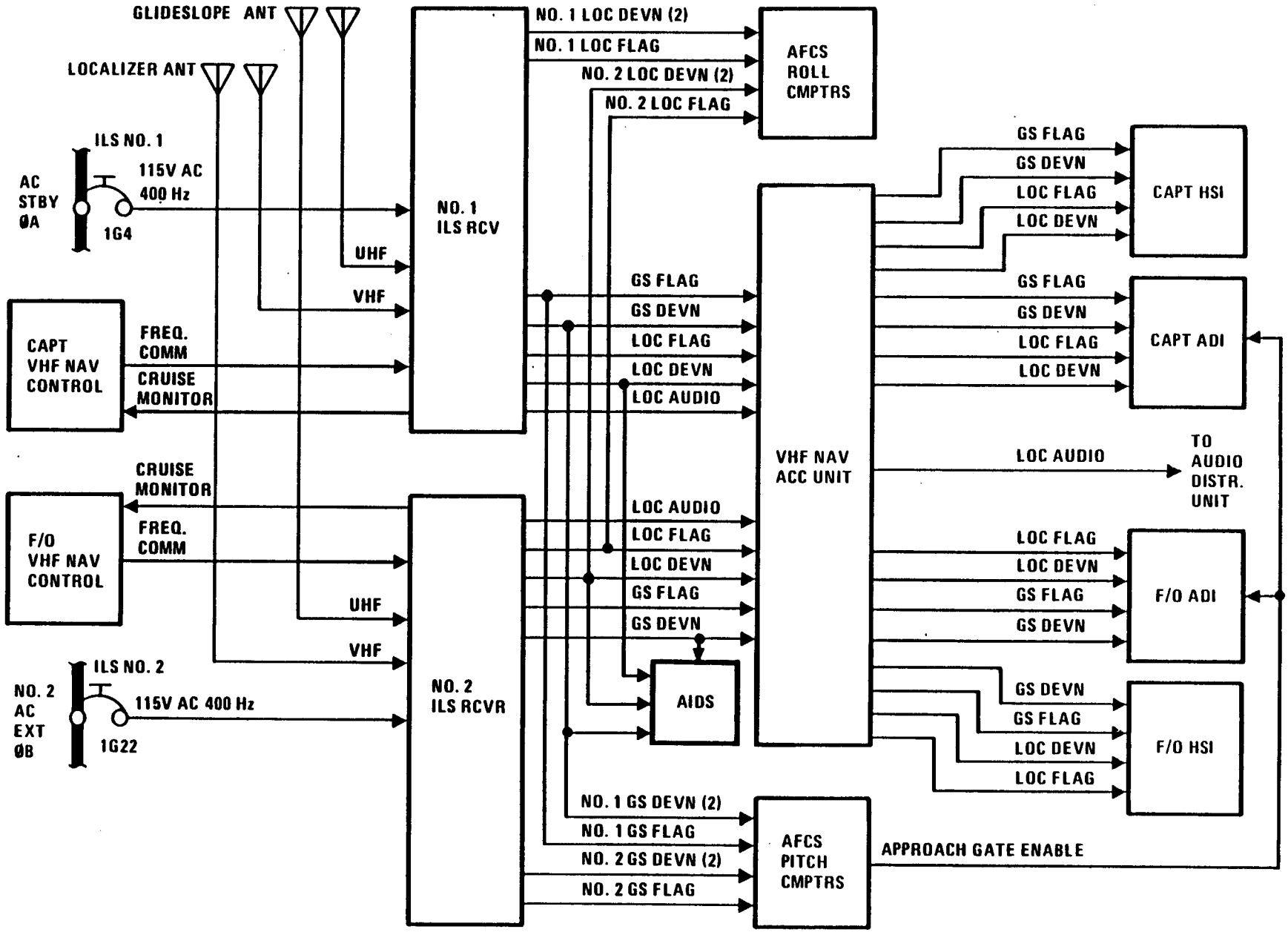
T-34-33-0100-022

DUAL LOCALIZER ANTENNA, REMOVAL AND INSTALLATION



T-34-33-0100-023

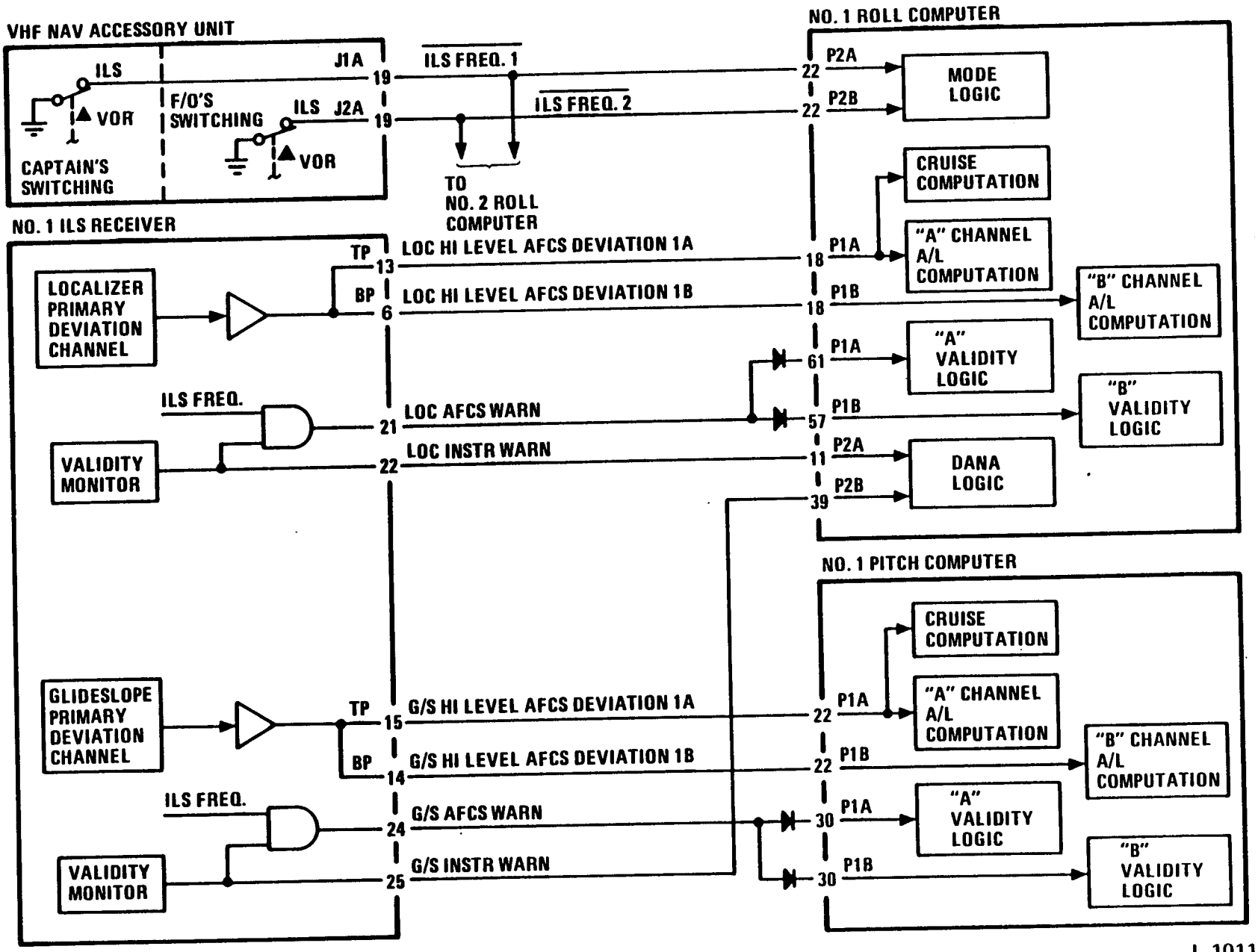
DUAL GLIDESLOPE ANTENNA, REMOVAL AND INSTALLATION



T-34-33-0005-007

ILS BLOCK DIAGRAM

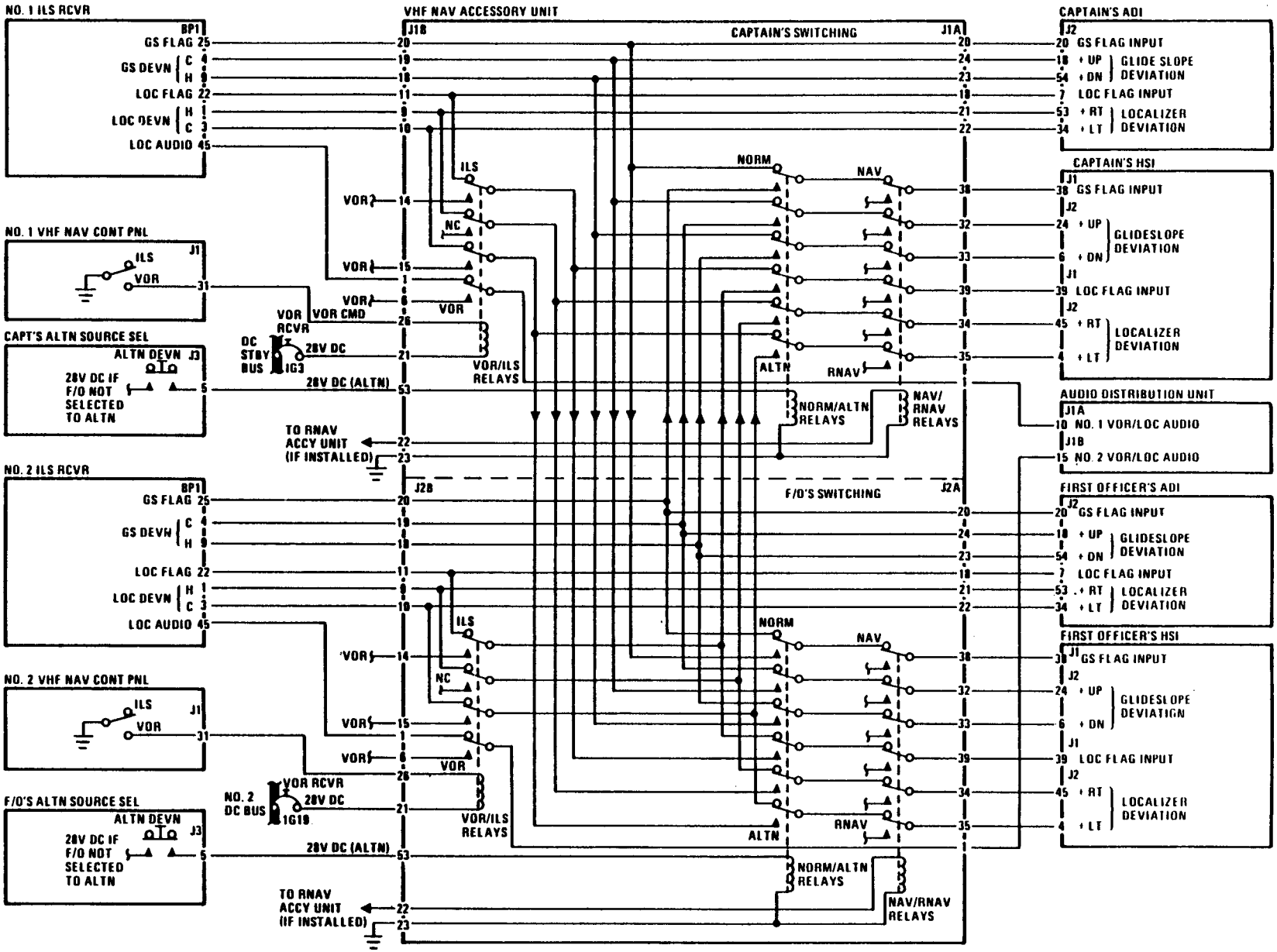
L-1011
3/77



T-34-33-0000-146

ILS-AFCS INTERFACE DIAGRAM

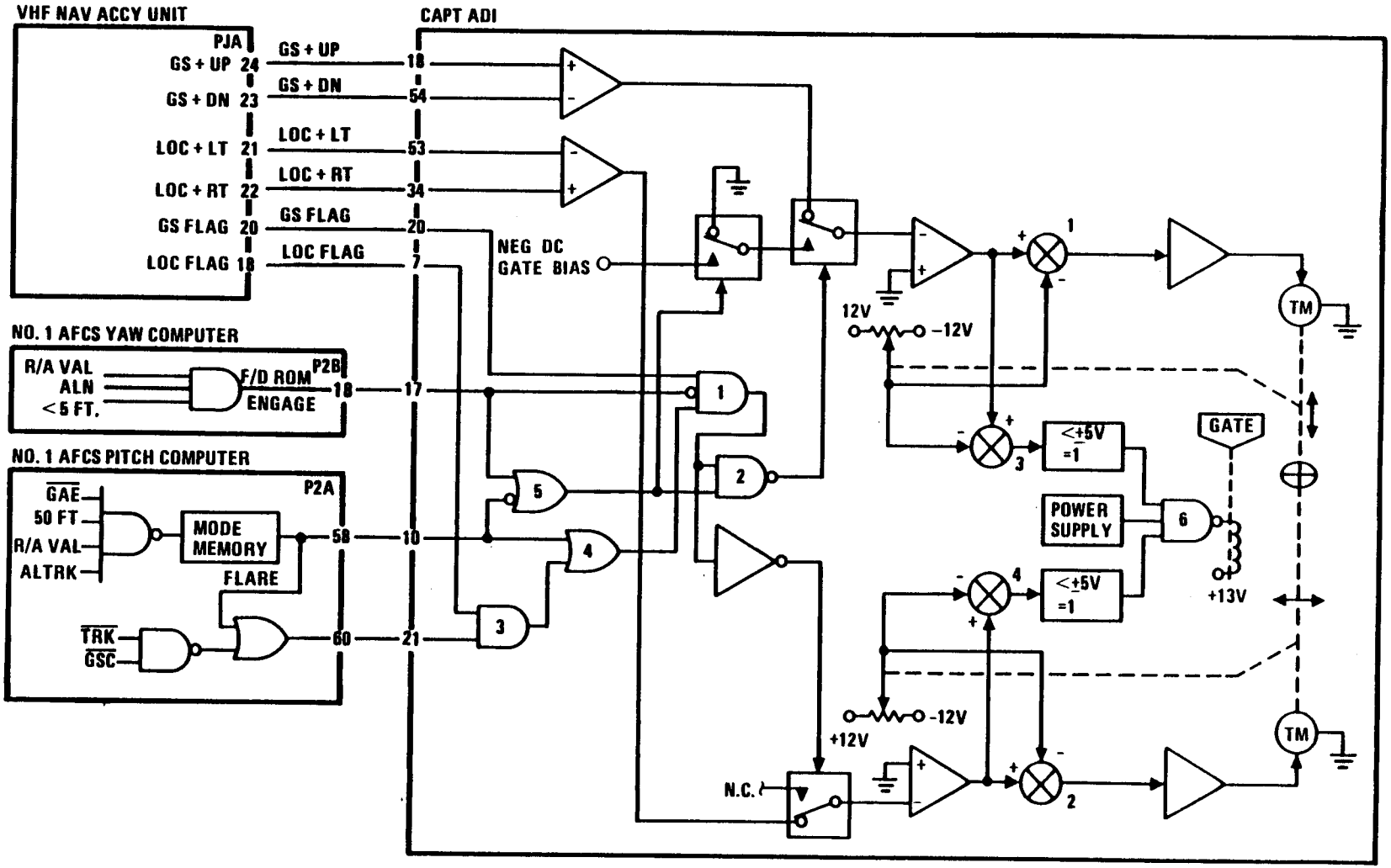
L-1011
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VHF NAV ACCESSORY UNIT FUNCTIONAL DIAGRAM (ILS OPERATION)

T-34-33-0001-121

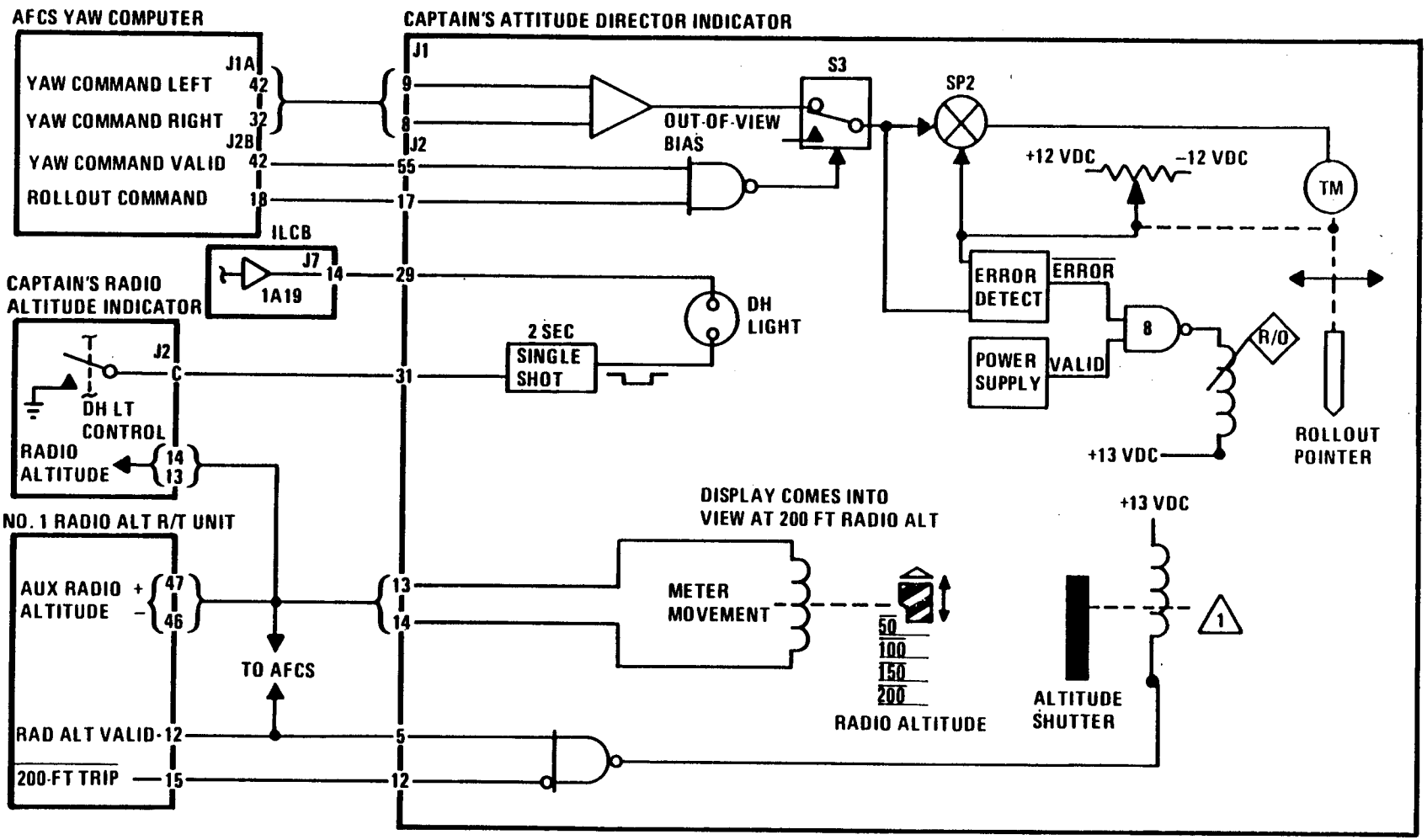
L-1011
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T-34-33-0004-003

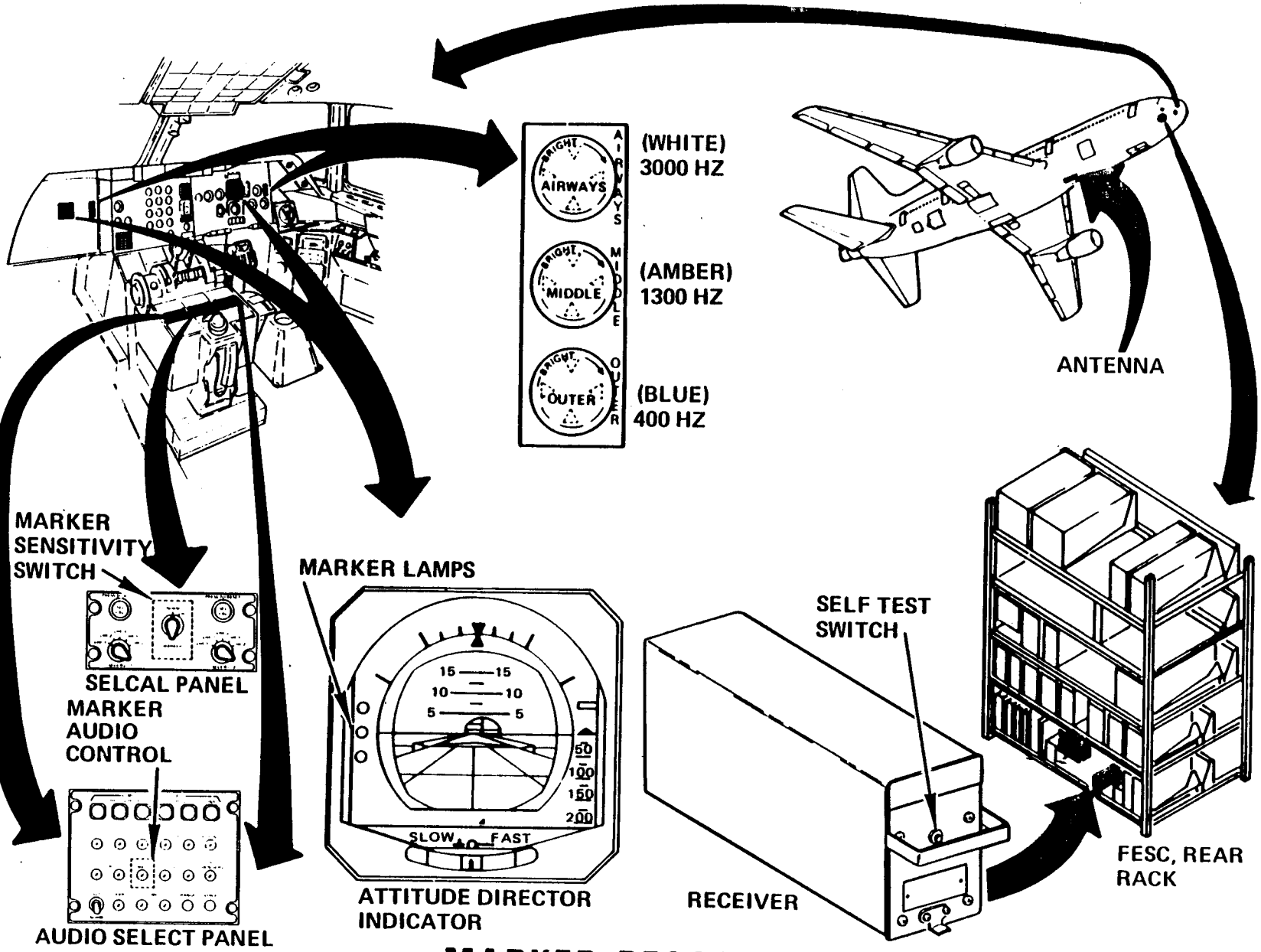
ADI FUNCTIONAL DIAGRAM (APPROACH GATE)

L-1011
3/77



1 RADIO ALT INDICATOR NOT INSTALLED ON ALL ADIs

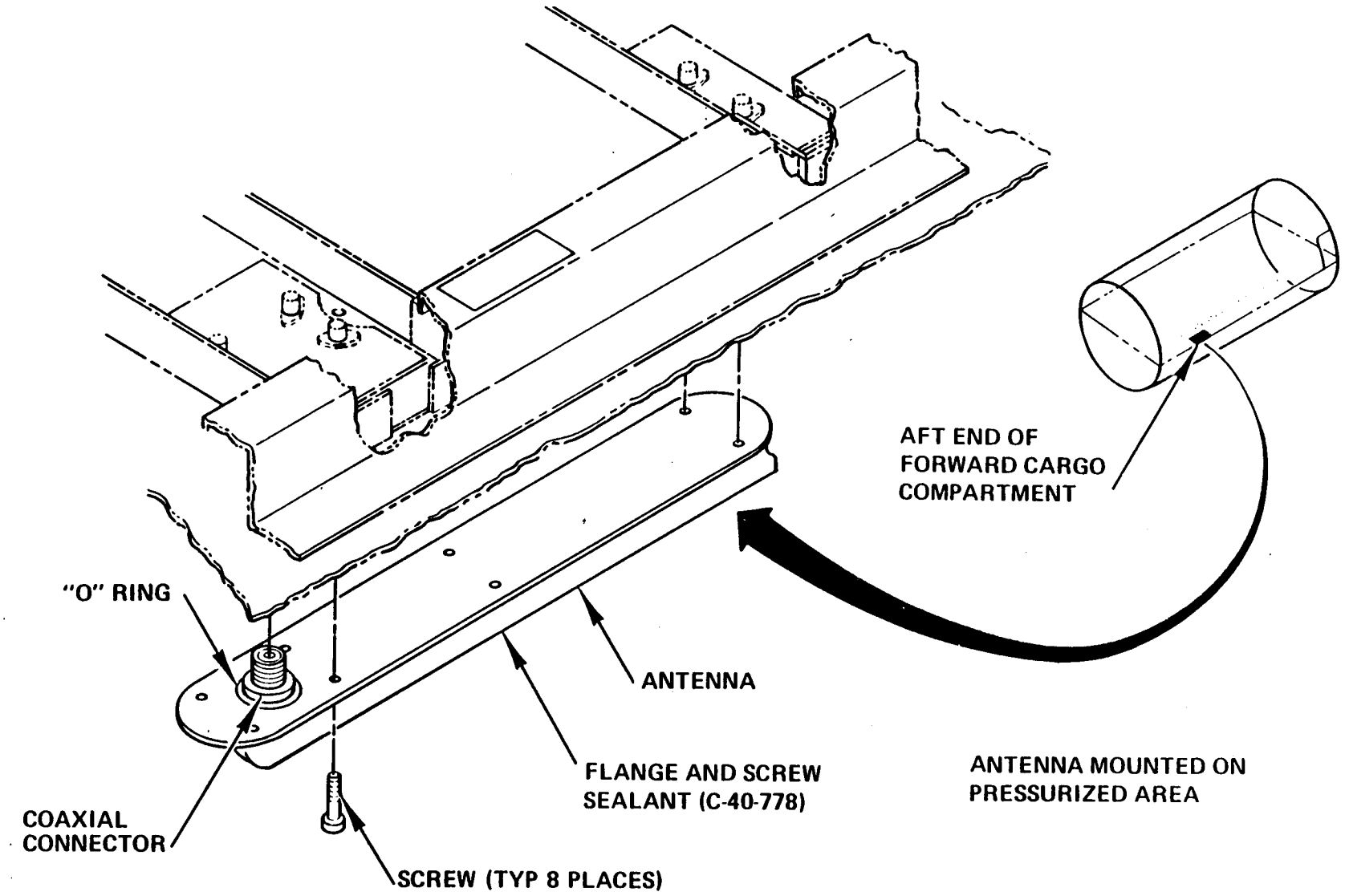
T-34-33-0002-049 **ADI ROLLOUT POINTER AND RADIO ALTITUDE DIAGRAM** L-1011



MARKER BEACON SYSTEM COMPONENT LOCATION DIAGRAM

T-34-35-0002-004

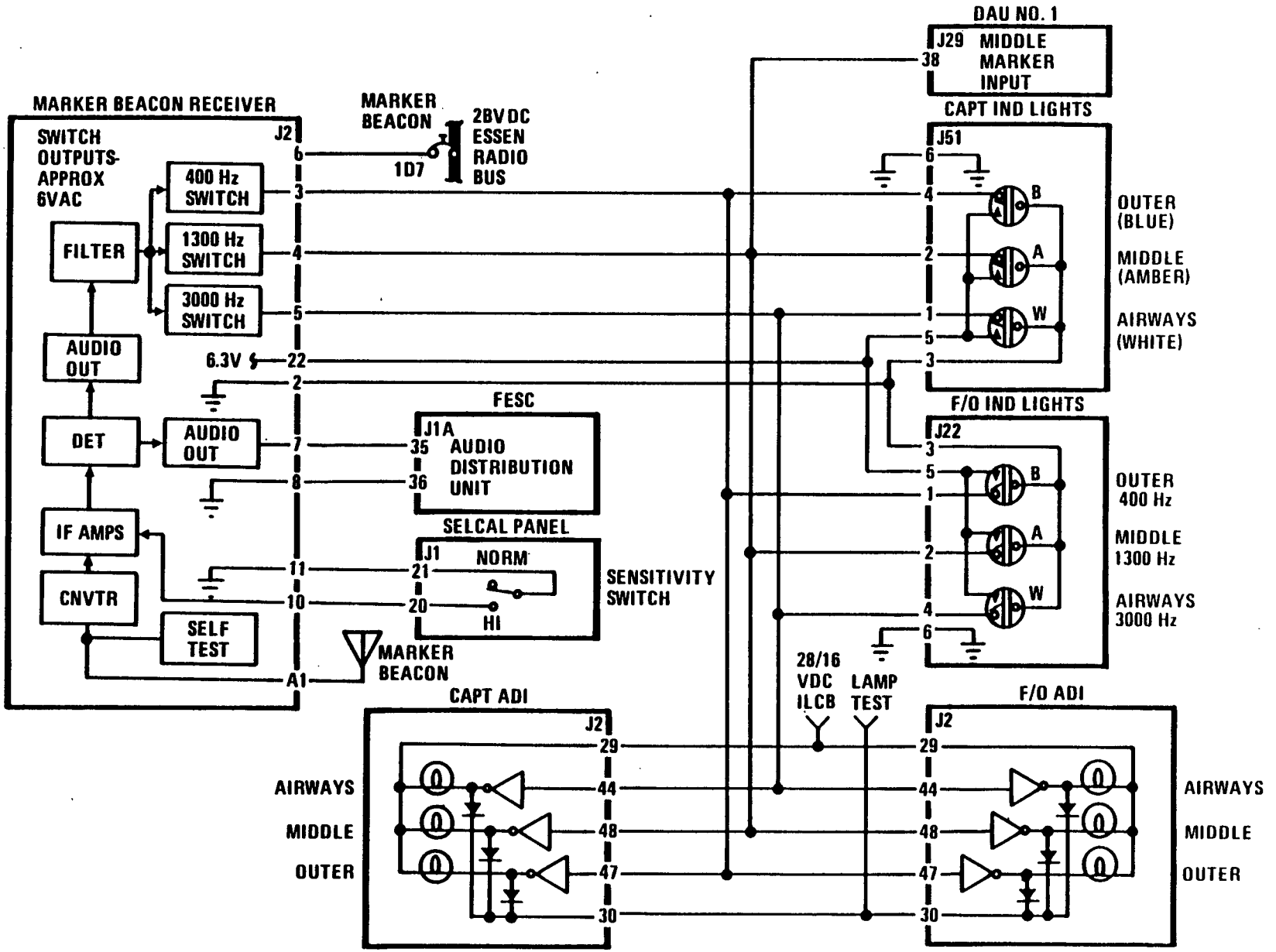
L-1011
10/73



MARKER BEACON ANTENNA-
REMOVAL AND INSTALLATION

T-34-35-0001-012

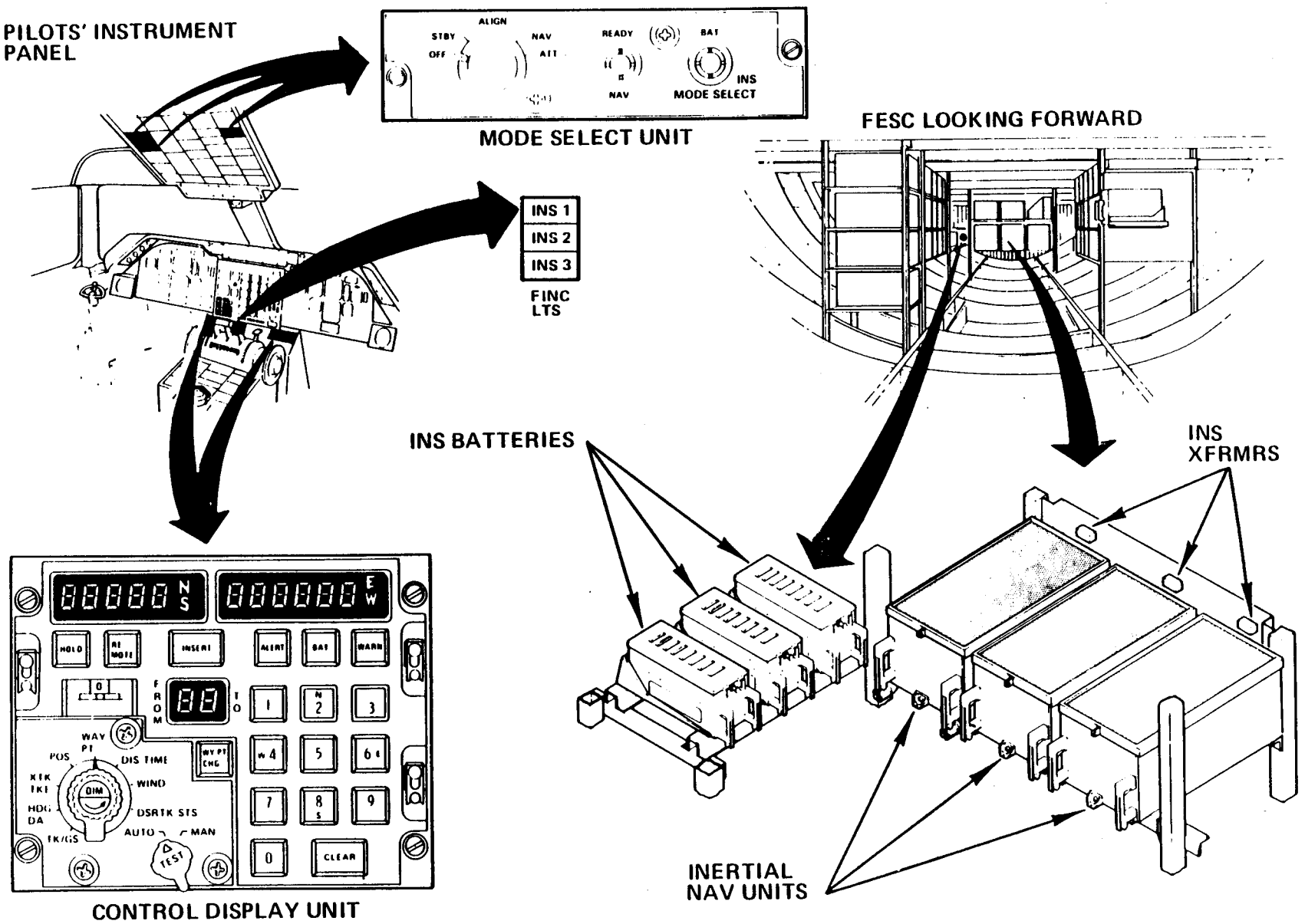
L-1011
8/73



T-34-35-0003-017

MARKER BEACON SYSTEM FUNCTIONAL DIAGRAM

L-1011
2/77

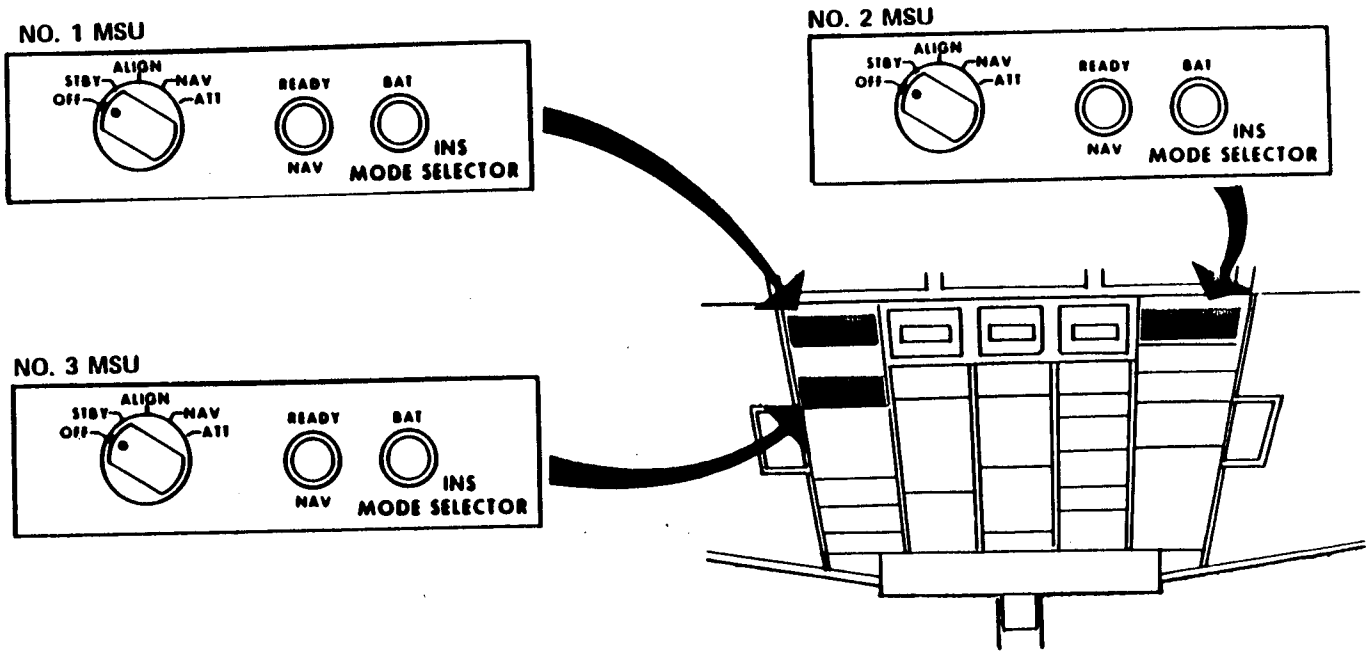


T-34-43-0000-942

INERTIAL NAVIGATION SYSTEM COMPONENTS

FOR TRAINING PURPOSES ONLY

L-1011

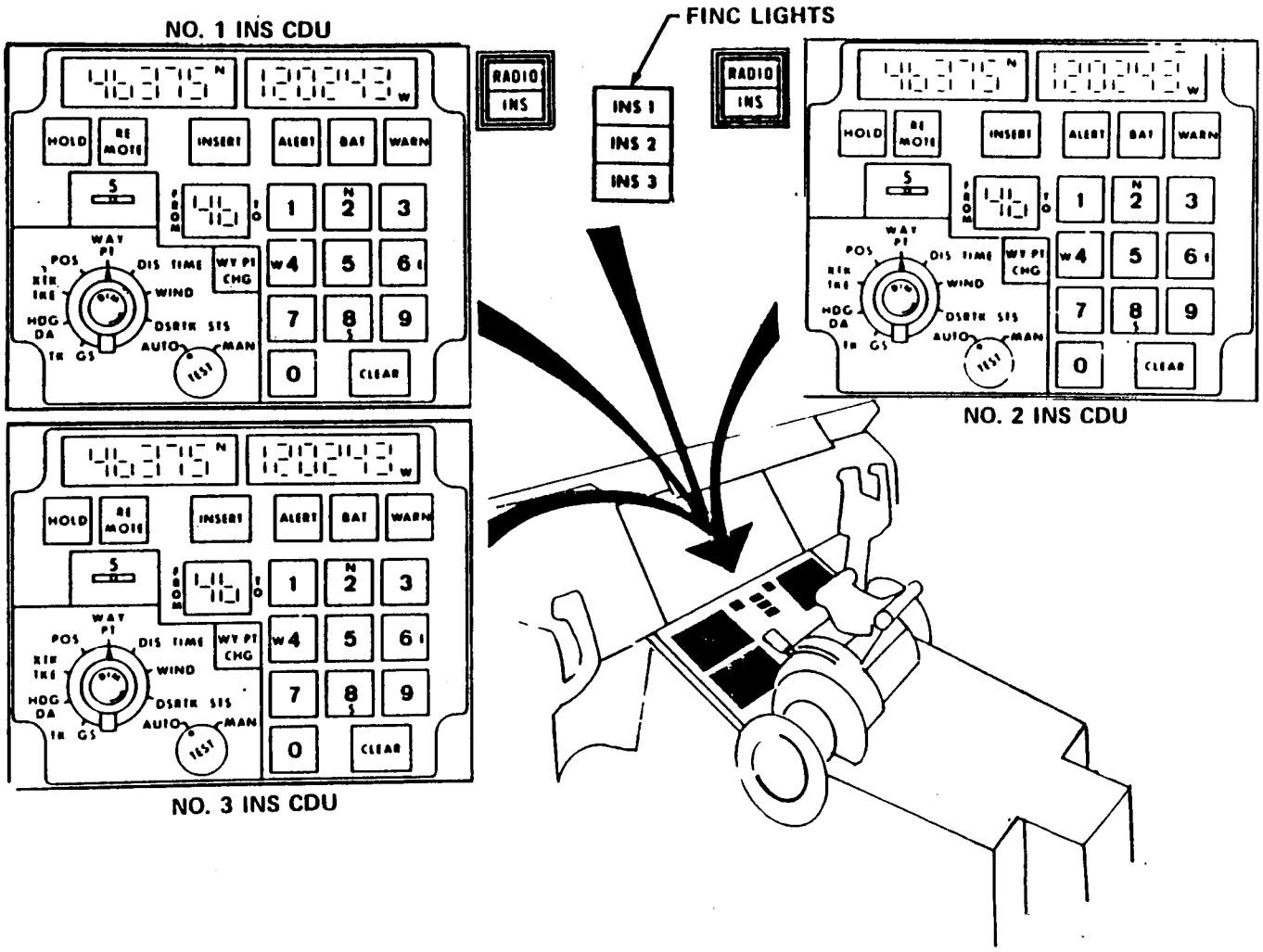


STBY: ENERGIZES P.S. - ENABLES BATTERY CHARGER, FAST WARM UP, CDU & DCU - PLATFORM CAGED.

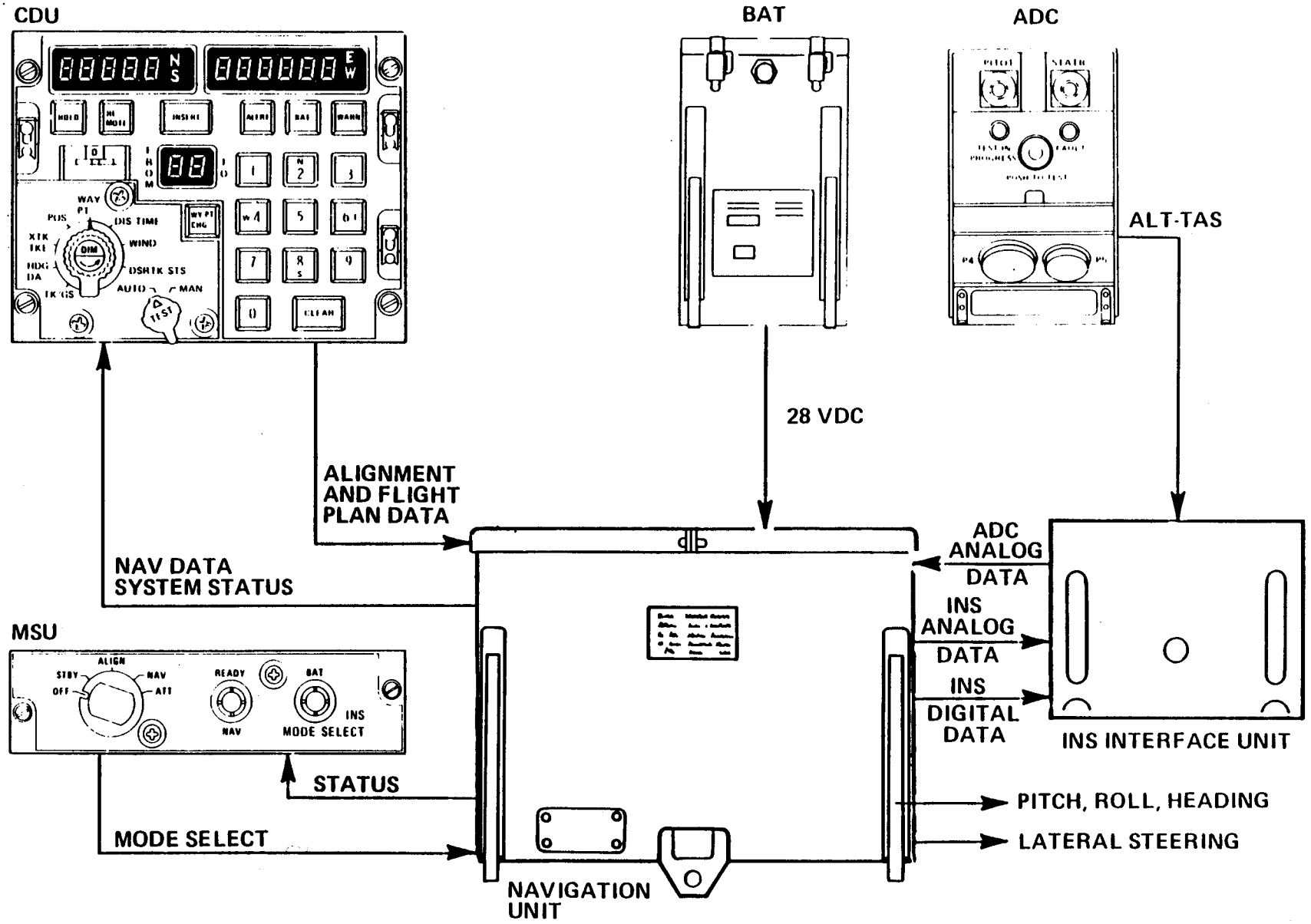
ALIGN: AUTO ALIGN (PRESENT POSITION MUST BE INSERTED BEFORE THE DCU WILL COMPLETE COARSE AZIMUTH ALIGN) - OVERTEMP SENSING - CHECKS REASONABLENESS - FINC COMPARISON ENABLED - TURNS ON NAV READY LIGHT WHEN ALIGN COMPLETE.

NAV: NAVIGATION MODE (NAV READY LIGHT ON) - FINC COMPARISON.

ATT: DCU SHUTDOWN - CDU DISABLED EXCEPT FOR BAT & WARN LIGHTS - ROLL & PITCH ATTITUDE REF - PLATFORM HEADING.



34-43-01TW INERTIAL NAVIGATION SYSTEM - COCKPIT UNIT LOCATION L1011-100
4-78

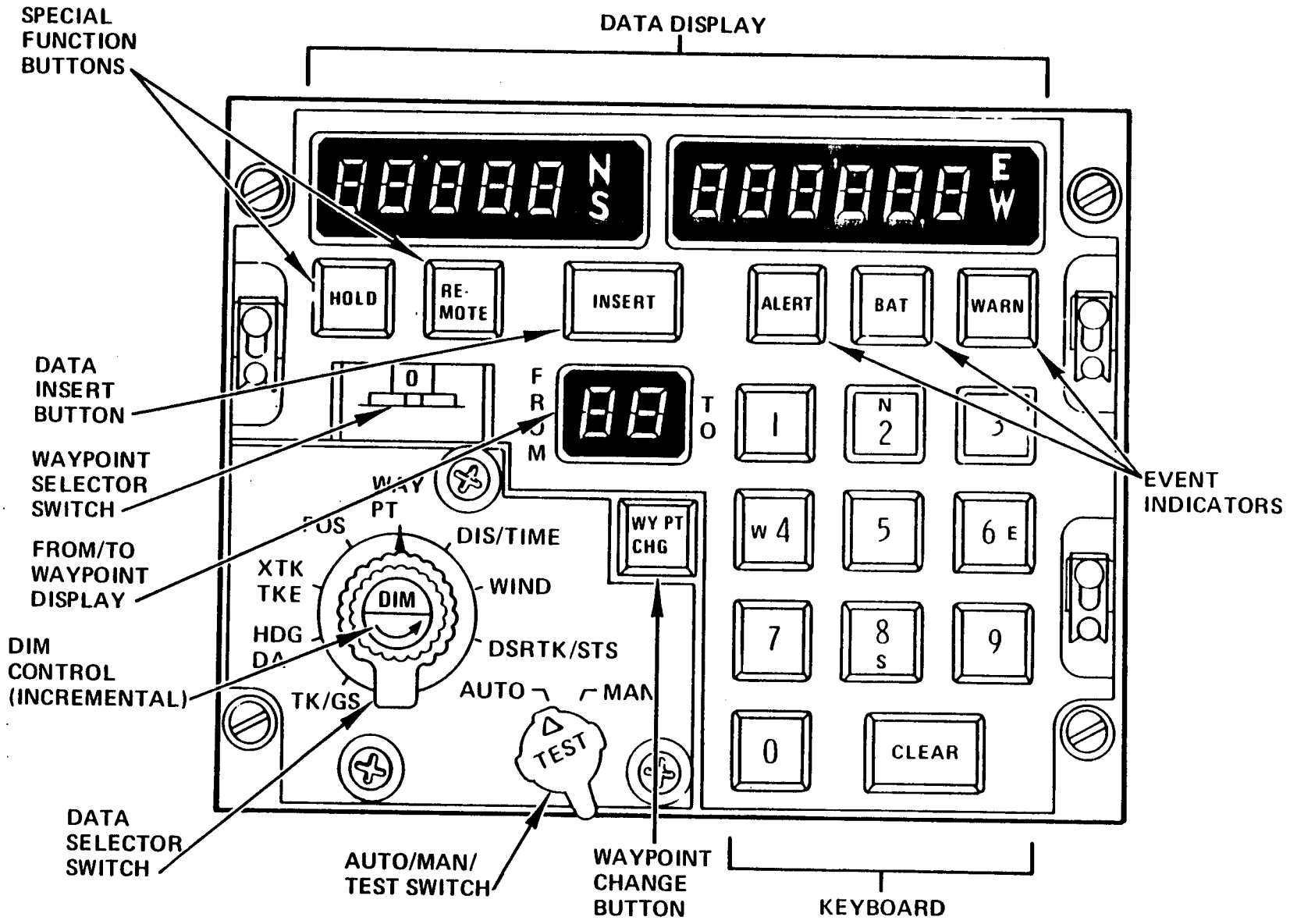


T-34-43-0000-945

INERTIAL NAVIGATION SYSTEM

FOR TRAINING PURPOSES ONLY

L-1011

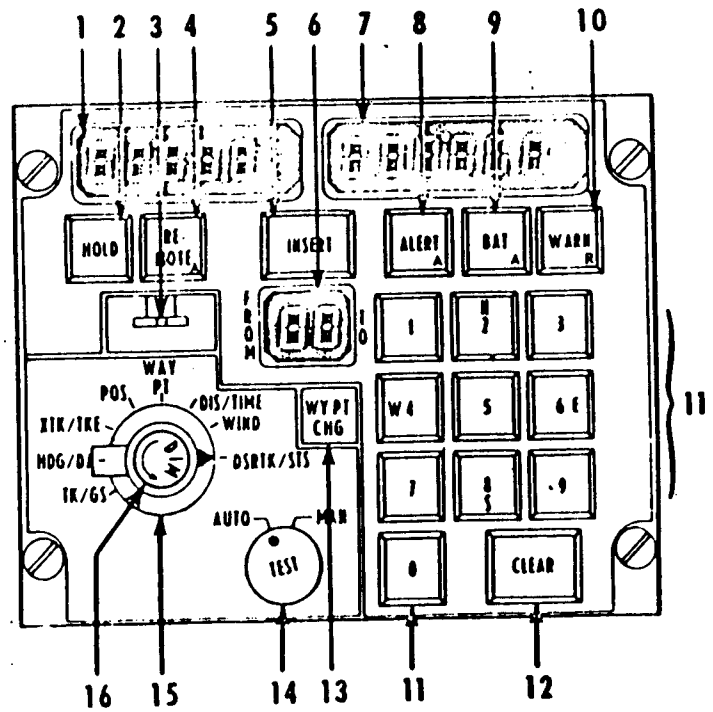


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CONTROL DISPLAY UNIT

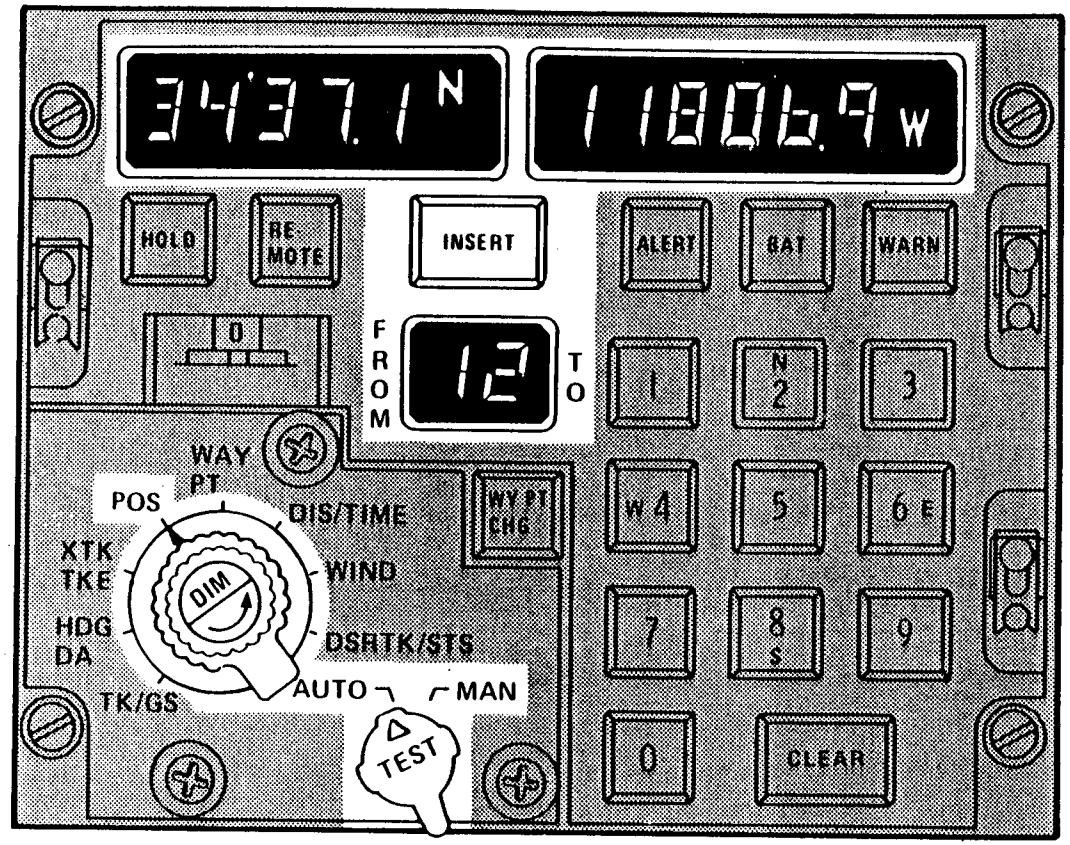
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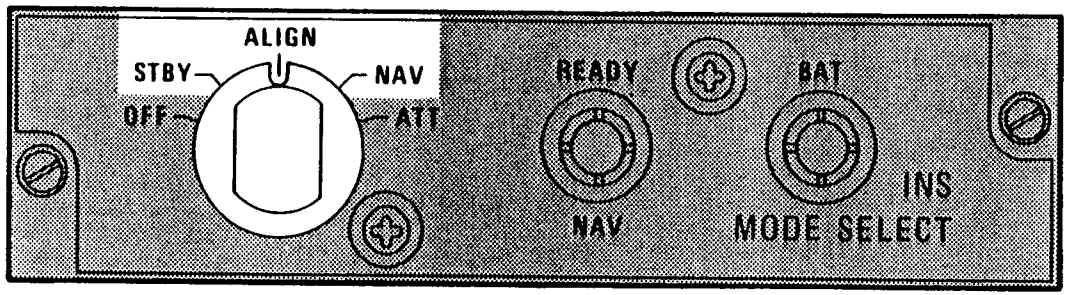


CONTROL/DISPLAY UNIT PANEL

1. LH DISPLAY - Displays latitude, wind angle and other left side nomenclature of the positions for the Data Selector Switch (15).
2. HOLD KEY - To freeze changing displays and provide logic functions for specific operational procedures.
3. WAYPOINT SELECTOR THUMBWHEEL - Selects waypoint LAT or LONG to display or insert.
4. REMOTE KEY - To allow simultaneous loading of C/DU's.
5. INSERT KEY - To shift data from C/DU to DCU.
6. FROM-TO DISPLAY - To indicate navigation leg.
7. RH DISPLAY - Displays longitude, wind speed and other right side nomenclature of DSS (15).
8. ALERT LIGHT - To indicate waypoint approach.
9. BAT LIGHT - To indicate INS Battery in use.
10. WARN LIGHT - To warn of INS internal malf.
11. KEYBOARD KEYS - To insert data into C/DU.
12. CLEAR KEY - To erradicate erroneously displayed data.
13. WY PT CHG KEY - To set logic to change navigation leg being computed.
14. AUTO-MAN-TEST SWITCH - To select level of INS operation, call up operation or malfunction codes, and reset WARN LIGHT (10).
15. DATA SELECTOR SWITCH (DSS) - To select data to be displayed on the LH (1) and RH (7) Displays.
16. DIM KNOB - To adjust lighting on numerical displays and the Hold, Remote, Insert, Alert and Waypt Chg Keys.



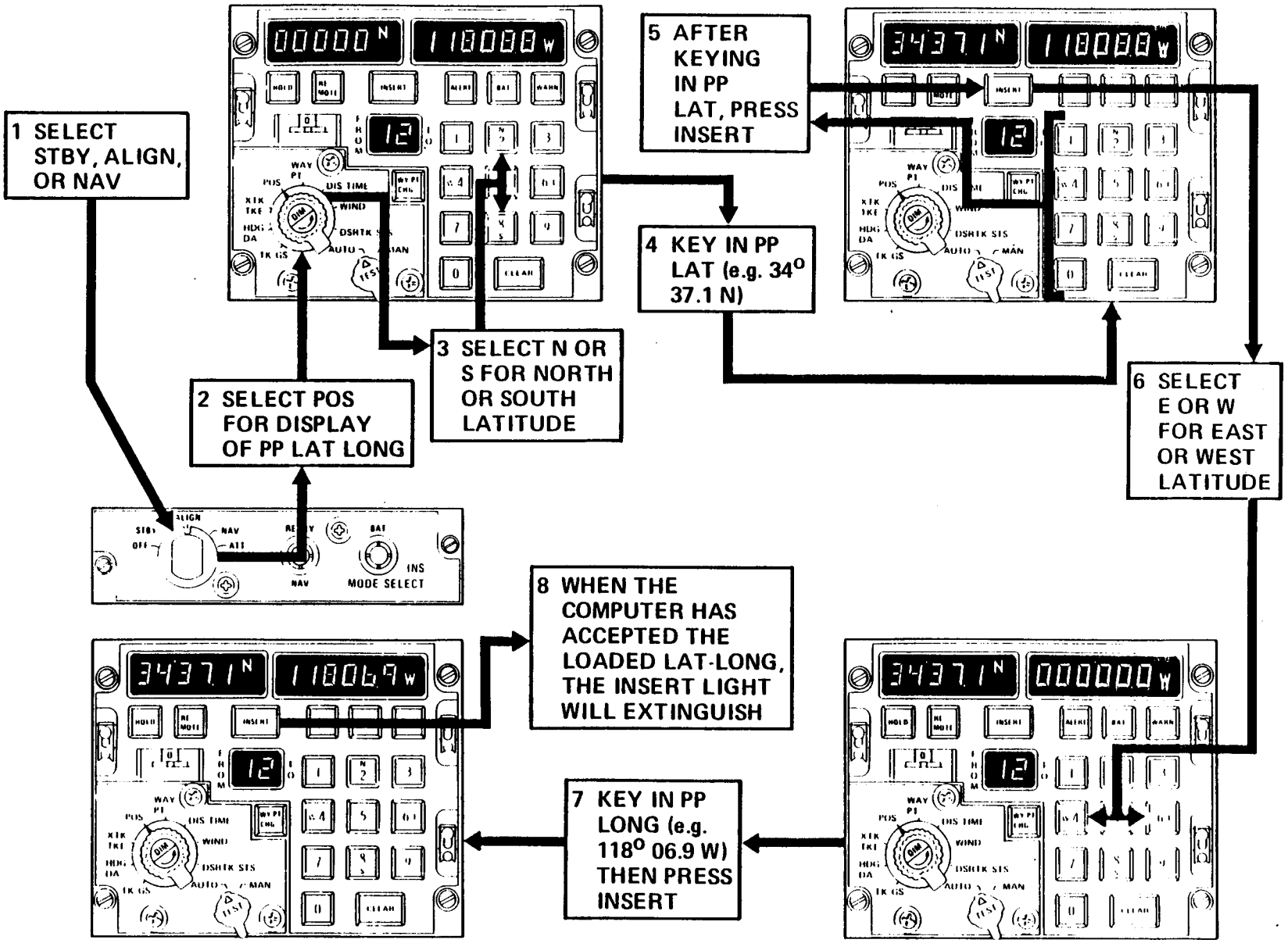
CDU



MSU

INS TEST OUTPUTS AVAILABLE TO HSI UNTIL NAV MODE
HDG (HEADING) = 0°
TKE (TRACK ANGLE ERROR) = 0°
DA (DRIFT ANGLE) = 0°
TK (TRACK ANGLE) = 0°
XTK (CROSSTRACK DISTANCE) = 3.5 NMI RIGHT
NAV WARN = VALID
HDG WARN = VALID
DIGITAL READOUTS = 8's

INS TEST OUTPUTS AVAILABLE TO APFDS UNTIL NAV MODE
CDU TEST SW IN MAN = 15° RIGHT ROLL
CDU TEST SW IN AUTO = 15° LEFT ROLL


1 SELECT STBY, ALIGN, OR NAV
2 SELECT POS FOR DISPLAY OF PP LAT LONG
3 SELECT N OR S FOR NORTH OR SOUTH LATITUDE
4 KEY IN PP LAT (e.g. 34° 37.1 N)
5 AFTER KEYING IN PP LAT, PRESS INSERT
6 SELECT E OR W FOR EAST OR WEST LATITUDE
7 KEY IN PP LONG (e.g. 118° 06.9 W) THEN PRESS INSERT
8 WHEN THE COMPUTER HAS ACCEPTED THE LOADED LAT-LONG, THE INSERT LIGHT WILL EXTINGUISH
INS MODE SELECT

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POSITION LOADING

L-1011

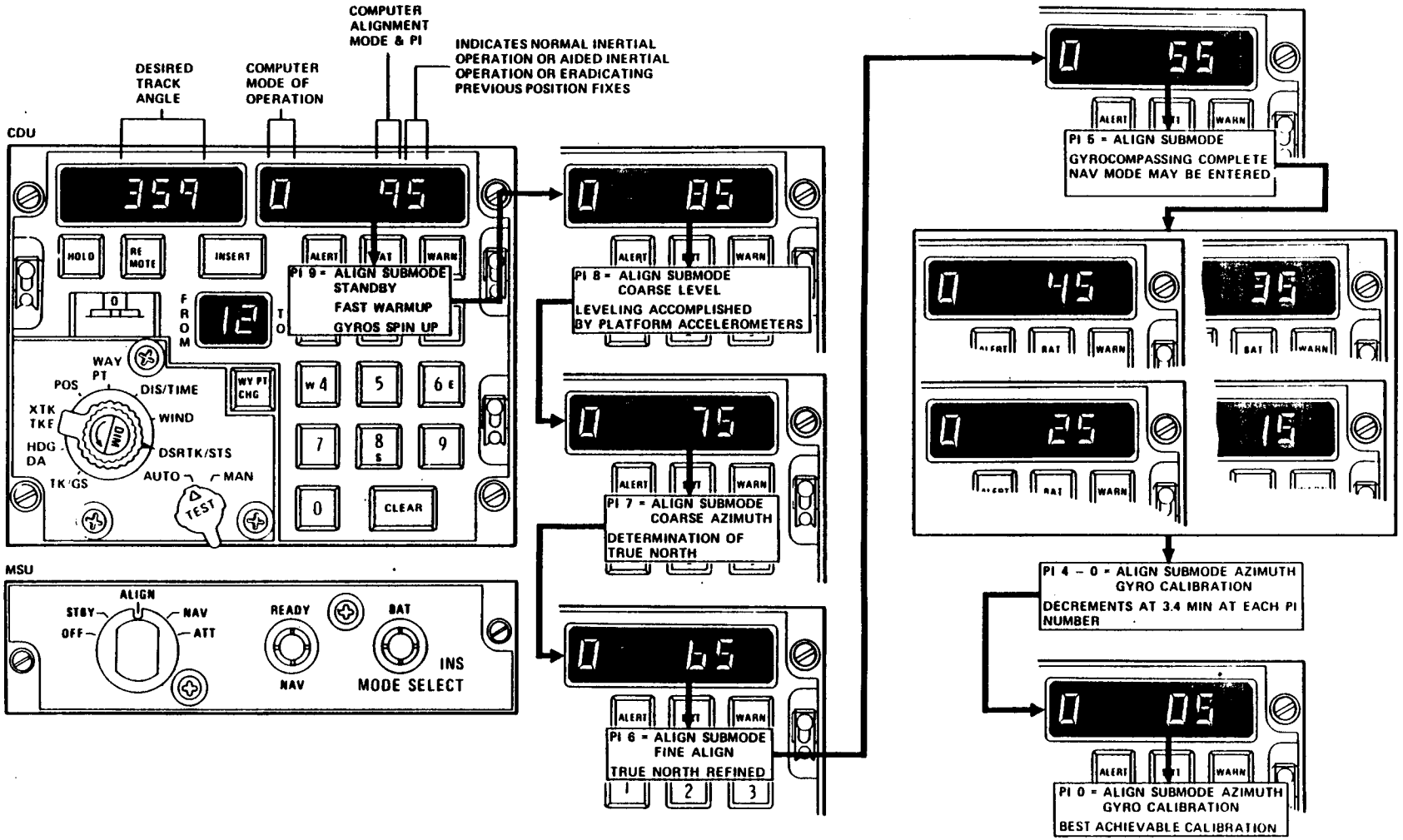
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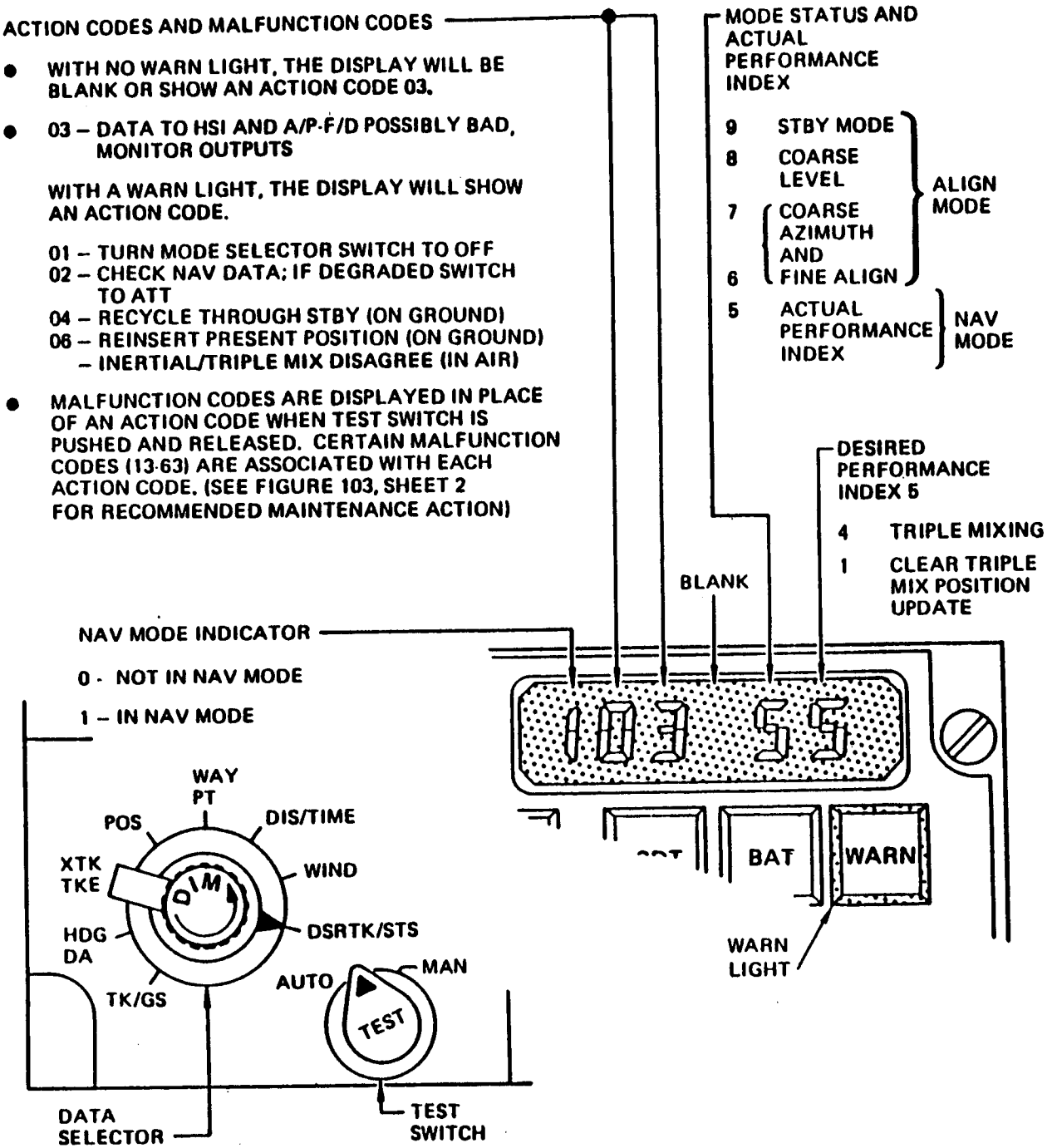
GEOGRAPHIC GATE POSITIONS - DOMESTIC

AIRPORT	GATES	LATITUDE	LONGITUDE	ICAO IDENT	IATA IDENT
ALBUQUERQUE		N35°02.5'	W106°36.4'	KABQ	ABQ
AMARILLO		N35°13.1'	W101°42.2'	KAMA	AMA
ATLANTA		N33°39.1'	W 84°25.6'	KATL	ATL
ATLANTIC CITY		N39°26.9'	W 74°35.0'	KACY	ACY
AUSTIN		N30°17.6'	W 97°42.0'	KAUS	AUS
BALTIMORE	3,5	N39°10.8'	W 76°40.0'	KBWI	BWI
BANGOR		N44°48.0'	W 68°49.0'	KBGR	BGR
BOISE		N43°34.1'	W116°13.2'	KBOI	BOI
BOSTON	HGR	N42°22.4'	W 71°01.3'	KBOS	BOS
BOSTON	TWA	N42°22.1'	W 71°00.9'	KBOS	BOS
BOSTON	IAB	N42°22.2'	W 71°01.2'	KBOS	BOS
BUFFALO		N42°56.2'	W 78°43.9'	KBUF	BUF
CHICAGO	HGR	N41°59.3'	W 87°55.1'	KORD	ORD
CHICAGO	TWA	N41°58.4'	W 87°54.2'	KORD	ORD
CINCINNATI		N39°03.2'	W 84°39.6'	KCVG	CVG
CLEVELAND		N41°24.7'	W 81°50.5'	KCLE	CLE
COLORADO SPRINGS		N38°49.0'	W104°42.3'	KCOS	COS
COLUMBUS		N39°59.8'	W 82°53.0'	KCMH	CMH
DALLAS-FT. WORTH		N32°53.8'	W 97°02.0'	KDFW	DFW
DAYTON		N39°54.1'	W 84°13.2'	KDAY	DAY
DENVER	TWA	N39°45.8'	W104°53.3'	KDEN	DEN
DES MOINES		N41°32.0'	W 93°39.0'	KDSM	DSM
DETROIT	TWA	N42°13.3'	W 83°20.9'	KDTW	DTW
EVERETT		N47°54.5'	W122°16.9'	KPAE	PAE
FT. LAUDERDALE		N26°04.3'	W 80°08.8'	KFLL	FLL
HOUSTON -					
HOBBY		N29°38.6'	W 95°17.2'	KHOU	HOU
INTERCONTINENTAL		N29°59.2'	W 95°20.9'	KIAH	IAH
INDIANAPOLIS	TWA	N39°43.8'	W 86°16.5'	KIND	IND
JACKSONVILLE		N30°29.6'	W 81°41.2'	KJAX	JAX
KANSAS CITY	HGR	N39°17.7'	W 94°41.8'	KMCI	MCI
KANSAS CITY	TWA	N39°17.7'	W 94°43.3'	KMCI	MCI
LAS VEGAS	TWA	N36°05.1'	W115°09.1'	KLAS	LAS
LOS ANGELES	TWA	N33°56.8'	W118°24.4'	KLAX	LAX
LOUISVILLE		N38°11.1'	W 85°44.5'	KSDF	SDF
MIAMI		N25°47.7'	W 80°16.8'	KMIA	MIA
MILWAUKEE		N42°56.9'	W 87°54.0'	KMKE	MKE
MINNEAPOLIS		N44°53.0'	W 93°12.9'	KMSP	MSP
MONTREAL		N45°27.3'	W 73°45.1'	CYUL	YUL
MONTREAL - MIRABEL		N45°40.8'	W 74°01.4'	CYMX	YMX

GEOGRAPHIC GATE POSITIONS - DOMESTIC

AIRPORT	GATES	LATITUDE	LONGITUDE	ICAO IDENT	IATA IDENT
NEWARK	TWA	N40°41.2'	W 74°10.8'	KEWR	EWR
NEW ORLEANS		N29°59.1'	W 90°16.0'	KMSY	MSY
NEW YORK -					
KENNEDY	FW 1	N40°38.8'	W 73°46.6'	KJFK	JFK
KENNEDY	FW 2	N40°38.7'	W 73°46.6'	KJFK	JFK
KENNEDY	DOM	N40°38.9'	W 73°46.7'	KJFK	JFK
KENNEDY	HGR 12	N40°38.9'	W 73°48.4'	KJFK	JFK
LA GUARDIA	TWA	N40°46.6'	W 73°52.3'	KLGA	LGA
NEWBURGH		N41°30.3'	W 74°06.0'	KSWF	SWF
OAKLAND		N37°43.9'	W122°12.8'	KOAK	OAK
OKLAHOMA CITY		N35°23.7'	W 97°35.8'	KOKC	OKC
ONTARIO		N34°03.6'	W117°37.1'	KONT	ONT
ORLANDO		N28°25.9'	W 81°18.9'	KMCO	MCO
OTTAWA		N45°19.4'	W 75°40.4'	CYOW	YOW
PALMDALE		N34°38.0'	W118°06.0'	KPMD	PMD
PALM SPRINGS		N33°49.5'	W116°30.5'	KPSP	PSP
PHILADELPHIA	TWA	N39°52.5'	W 75°14.6'	KPHL	PHL
PHOENIX	TWA	N33°26.1'	W112°00.8'	KPHX	PHX
PITTSBURGH	TWA	N40°29.8'	W 80°13.0'	KPIT	PIT
RENO		N39°30.4'	W119°46.4'	KRNO	RNO
ROCKFORD		N42°12.0'	W 89°05.7'	KRFD	RFD
SACRAMENTO		N38°41.6'	W121°35.7'	KSMF	SMF
ST. LOUIS		N38°44.6'	W 90°21.9'	KSTL	STL
SALT LAKE CITY		N40°47.2'	W111°58.6'	KSLC	SLC
SAN ANTONIO		N29°31.8'	W 98°28.4'	KSAT	SAT
SAN DIEGO		N32°44.0'	W117°11.9'	KSAN	SAN
SAN FRANCISCO	TWA	N37°36.8'	W122°23.0'	KSFO	SFO
SAN JOSE		N37°21.7'	W121°55.3'	KSJC	SJC
SEATTLE - BOEING FIELD		N47°31.9'	W122°18.1'	KBFI	BFI
SEATTLE - TACOMA		N47°26.5'	W122°18.2'	KSEA	SEA
SPOKANE		N47°37.5'	W117°32.1'	KGEG	GEG
SYRACUSE		N43°06.8'	W 76°06.6'	KSYR	SYR
TAMPA		N27°58.9'	W 82°32.1'	KTPA	TPA
TOPEKA		N38°57.1'	W 95°40.6'	KFOE	FOE
TORONTO		N43°41.0'	W 79°37.3'	CYYZ	YYZ
TUCSON		N32°07.2'	W110°56.3'	KTUS	TUS
TULSA	TWA	N36°11.5'	W 95°53.3'	KTUL	TUL
VANCOUVER		N49°11.7'	W123°11.0'	CYVR	YVR
WASHINGTON		N38°56.7'	W 77°26.7'	KIAD	IAD
WICHITA		N37°39.1'	W 97°25.7'	KICT	ICT
WINDSOR LOCKS	TWA	N41°56.1'	W 72°41.1'	KBDL	BDL
WINNIPEG		N49°54.2'	W 97°13.9'	CYWG	YWG


COMPUTER ALIGNMENT MODE & PI
INDICATES NORMAL INERTIAL OPERATION OR AIDED INERTIAL OPERATION OR ERADICATING PREVIOUS POSITION FIXES
DESIRED TRACK ANGLE
COMPUTER MODE OF OPERATION
CDU
359
0 95
HOLD
RE MOTE
INSERT
ALERT
BAT
WARN
PI 9 = ALIGN SUBMODE
STANDBY
FAST WARMUP
GYROS SPIN UP
FROM
TO
12
WAY PT
POS
DIS/TIME
XTK TKE
WIND
HDG DA
DSRTK/STS
TK GS
AUTO
MAN
TEST
WY PT CHG
CLEAR
MSU
ALIGN
STBY
NAV
OFF
ATT
READY
BAT
NAV
INS
MODE SELECT
0 85
PI 8 = ALIGN SUBMODE
COARSE LEVEL
LEVELING ACCOMPLISHED
BY PLATFORM ACCELEROMETERS
0 75
PI 7 = ALIGN SUBMODE
COARSE AZIMUTH
DETERMINATION OF
TRUE NORTH
0 65
PI 6 = ALIGN SUBMODE
FINE ALIGN
TRUE NORTH REFINED
0 55
PI 5 = ALIGN SUBMODE
GYROCOMPASSING COMPLETE
NAV MODE MAY BE ENTERED
0 45
35
0 25
15
PI 4 – 0 = ALIGN SUBMODE AZIMUTH
GYRO CALIBRATION
DECREMENTS AT 3.4 MIN AT EACH PI NUMBER
0 05
PI 0 = ALIGN SUBMODE AZIMUTH
GYRO CALIBRATION
BEST ACHIEVABLE CALIBRATION


ACTION CODES AND MALFUNCTION CODES
• WITH NO WARN LIGHT, THE DISPLAY WILL BE BLANK OR SHOW AN ACTION CODE 03.
• 03 – DATA TO HSI AND A/P-F/D POSSIBLY BAD, MONITOR OUTPUTS
WITH A WARN LIGHT, THE DISPLAY WILL SHOW AN ACTION CODE.
01 – TURN MODE SELECTOR SWITCH TO OFF
02 – CHECK NAV DATA; IF DEGRADED SWITCH TO ATT
04 – RECYCLE THROUGH STBY (ON GROUND)
06 – REINSERT PRESENT POSITION (ON GROUND)
– INERTIAL/TRIPLE MIX DISAGREE (IN AIR)
• MALFUNCTION CODES ARE DISPLAYED IN PLACE OF AN ACTION CODE WHEN TEST SWITCH IS PUSHED AND RELEASED. CERTAIN MALFUNCTION CODES (13-63) ARE ASSOCIATED WITH EACH ACTION CODE. (SEE FIGURE 103, SHEET 2 FOR RECOMMENDED MAINTENANCE ACTION)
MODE STATUS AND ACTUAL PERFORMANCE INDEX
9 STBY MODE
8 COARSE LEVEL
7 COARSE AZIMUTH AND
6 FINE ALIGN
ALIGN MODE
5 ACTUAL PERFORMANCE INDEX
NAV MODE
DESIRED PERFORMANCE INDEX 5
4 TRIPLE MIXING
1 CLEAR TRIPLE MIX POSITION UPDATE
BLANK
NAV MODE INDICATOR
0 - NOT IN NAV MODE
1 – IN NAV MODE
BAT
WARN
WARN LIGHT
WAY PT
POS
DIS/TIME
XTK TKE
WIND
DIM
HDG DA
DSRTK/STS
TK/GS
AUTO
MAN
TEST
DATA SELECTOR
TEST SWITCH

ACTION CODES

CODE ACTION-MALF	MALF DESCRIPTION [1]	RECOMMENDED ACTION FOR MAINTENANCE
01-33	AZIMUTH STAB LOOP FAIL	REPLACE NU IF ONE OF THESE LOOP MALFS OCCURRED AND HAS NOT BEEN RESET. IF 01 CODE PRESENT, REPLACE NU. IF INS SHUTDOWN IN FLIGHT, REPLACE NU. NOTE: THESE WILL ASLO CAUSE ATTITUDE FLAG IN ADI
01-34	INNER ROLL STAB LOOP FAIL	
01-35	PITCH STAB LOOP FAIL	
01-36	ACCELEROMETER LOOP FAIL	
01-37	Z PLATFORM OVERTEMP	CHECK THAT FWD AVIONICS FAN IS OPERATIVE AND BLADES ARE CLEAN. IF BLADES ARE DIRTY, CHANGE FAN, CLEAN INS BLOWER AND BLOWER CHECK VALVE IF DIRTY. PERFORM INS AIRFLOW CHECK. IF OK, REPLACE NU. NOTE: THESE WILL ALSO CAUSE ATTITUDE FLAG IN ADI.
01-38	XY PLATFORM OVERTEMP	
01-39	OVEN OVERTEMP	
02-32	MEMORY PARITY ERROR	REPLACE NU IF ONE OF THESE COMPUTER MALF OCCURS AND CANNOT BE RESET, (UNIT OK FOR ATTITUDE ONLY)
02-59	600 MSEC LOOP FAIL	
02-63	COMPUTER SELF TEST FAIL	
02-13	ΔY VELOCITY – NAV MODE	1. ALIGN TO MODE 5 AND ENTER NAV. MONITOR FOR MALFS. 2. IF NO MALFS OCCUR, INS IS GOOD. 3. IF MC 42, 45 OR 60 OCCURS, SET MODE SELECTOR TO STBY AND THEN REALIGN TO MODE 5. IF MC 42, 45 OR 60 REOCCURS, REPLACE NU. 4. IF MALFS OTHER THAN 42, 45 OR 60 OCCUR, REPLACE NU. (THESE WILL ALSO CAUSE HSI NAV AND THDS FLAG AND DIGITAL DATA FLAGS.) NOTE. MALF 57 AND 62 INDICATES POSSIBLE INS PLATFORM TUMBLING AND ADI ATTITUDE DISPLAY MALFUNCTION.
02-14	ΔX VELOCITY – NAV MODE	
02-15	X OR Y GYRO TORQUE TOO HIGH - ALIGN, NAV MODE	
04-18	IN MODE 8 >6.8 MIN.	
02-31	GROUND SPEED > 899 KNOTS	
02-42	DRIFT ANGLE > 45°	
04-45	CHANGE IN GYRO SCALE FACTOR TOO LARGE OR WRONG LAT WAS LOADED	
02-50	VERT. ACCEL. TOO LARGE	
04-57	GIMBAL ANGLE RATE TOO LARGE IN ALIGN MODE	
04-60	ΔWSH TOO LARGE IN ALIGN MODE	
02-62	GIMBAL ANGLE RATE TOO LARGE IN NAV MODE	

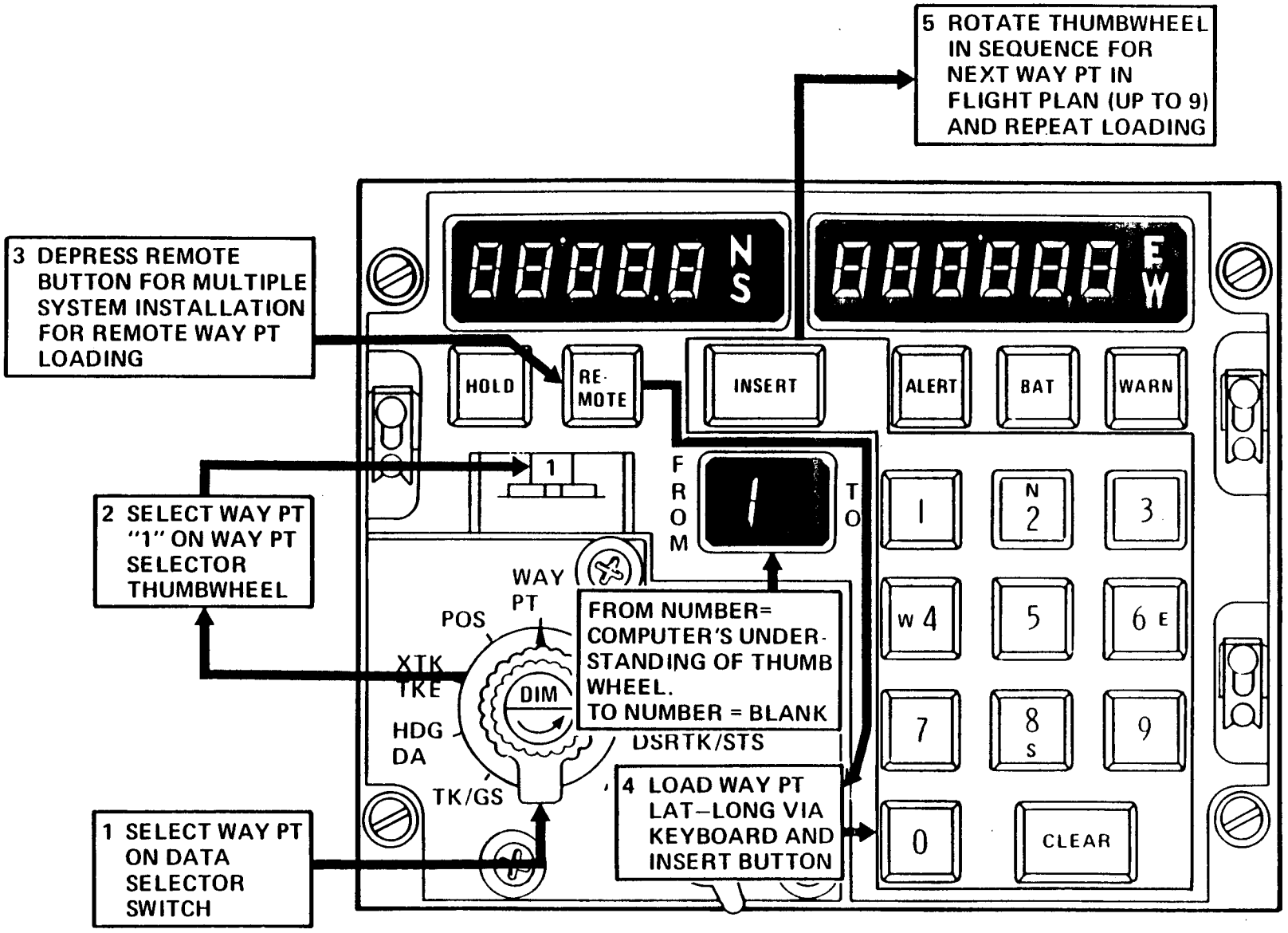
[1] "TWA-3IN A1" COMPARATOR PROGRAM (CDU READOUT 63–20)

ACTION MALFUNCTION CODE READOUT/CLEARING PROCEDURE (REF. FIGURE 103, SHEET 1)

1 SELECT DSRTK/STS ON CDU
2. READ UPPER RIGHT DISPLAY DIGITS YY (XYYXXX) X = DON'T CARE

CODE ACTION-MALF	MALF DESCRIPTION [1]	RECOMMENDED ACTION FOR MAINTENANCE
03-22*	TKE + DA TO HSI FAIL	1 IF 22, 23, 24, 25 ALL APPEAR, PROBLEM IS USUALLY LOSS OF AIRCRAFT 26VAC. CHECK VG/INS (1, 2, OR 3) CIRCUIT BREAKERS AND INSTR TRANSFORMERS. 2. IF ONE OR TWO CODES APPEAR AND CANNOT BE CLEARED, REPLACE NU (NU OK FOR NAV AND ATTITUDE, BUT HSI DATA AND AUTO PILOT DATA INVALID).
03-23*	DA TO A/P FAIL	
03-24*	STEERING TO A P FAIL	
03-25*	TRUE HDG TO HSI FAIL	
03-26*	XTK TO HSI FAIL	
	*NO CDU WARN LITE	
06-43	LOADED PRESENT POSITION BETWEEN ANOTHER INS DIFFER >0.8 NMI. IN ALIGN MODE	1. CHECK LOADED PRESENT POSITION. 2. IF REQUIRED, DOWNMODE TO STBY AND RELOAD. 3. CLEAR MALF – UNIT OK (ADVISORY ONLY), DO NOT REPLACE NU.
06-56	TRIPLE MIX POSITION DISPLAY DISAGREES WITH INERTIAL POSITION BY >3 + 3T NM (T = HOURS IN NAV MODE) OR INFLIGHT POSITION UPDATE DISAGREES WITH INERTIAL POSITION BY >3 + 3T NM NOTE: WILL NORMALLY ALSO CAUSE INS COMPARATOR LIGHT	1. CHECK INERTIAL POSITION FOR ACCURACY FOR MAINT MANUAL ACCURACY SPEC AND COMPLETE INS PERFORMANCE/ACCURACY CHECKSHEET. 2. IF WITHIN ACCURACY SPECS, ALIGN TO MODE 5 AND CHECK FOR CDU WARN AND MALFUNCTIONS. 3. IF OUTSIDE ACCURACY SPECS, REPLACE NU.
06-58	INSERTED POSITION DURING ALIGN MODE DISAGREES WITH SHUTDOWN POSITION BY >3 + 3T NM (T = HOURS IN NAV MODE).	1. RECYCLES TO STBY. REINSERT PRESENT POSITION. 2. SELECT DSRTK/STS AND PRESS TEST UNTIL MALF CODE 58 CLEARS. 3. SELECT MSU TO NAV AND COMPLETE ALIGNMENT TO NAV READY. NOTE: DO NOT REPLACE NU FOR THIS MALF CODE UNLESS SHUTDOWN POSITION EXCEEDS MAINT MANUAL ACCURACY SPECS.

3. DIGITS YY ARE THE HIGHEST PRIORITY ACTION CODE (OY). REFER TO FIGURE 103 (SHEET 1) FOR ACTION CODE MEANING.
4 PRESS AND HOLD TEST SWITCH ON CDU UNTIL ALL LIGHTS TEST
5. RELEASE TEST SWITCH.
6. READ DIGITS YY. THESE ARE THE MALFUNCTION CODES
7. PERFORM STEPS 4, 5 AND 6 UNTIL ACTION CODE (OY) REAPPEARS, IN ANY.
8. PERFORM STEPS 4, 5 AND 6 AND RECORD MALFUNCTION CODES, IF ANY
NOTE: IF WARN LIGHT GOES OUT, FAILURE WAS INTERMITTENT AND HAS BEEN RESET (CLEARED). IF RESET, DISREGARD THE CODES.

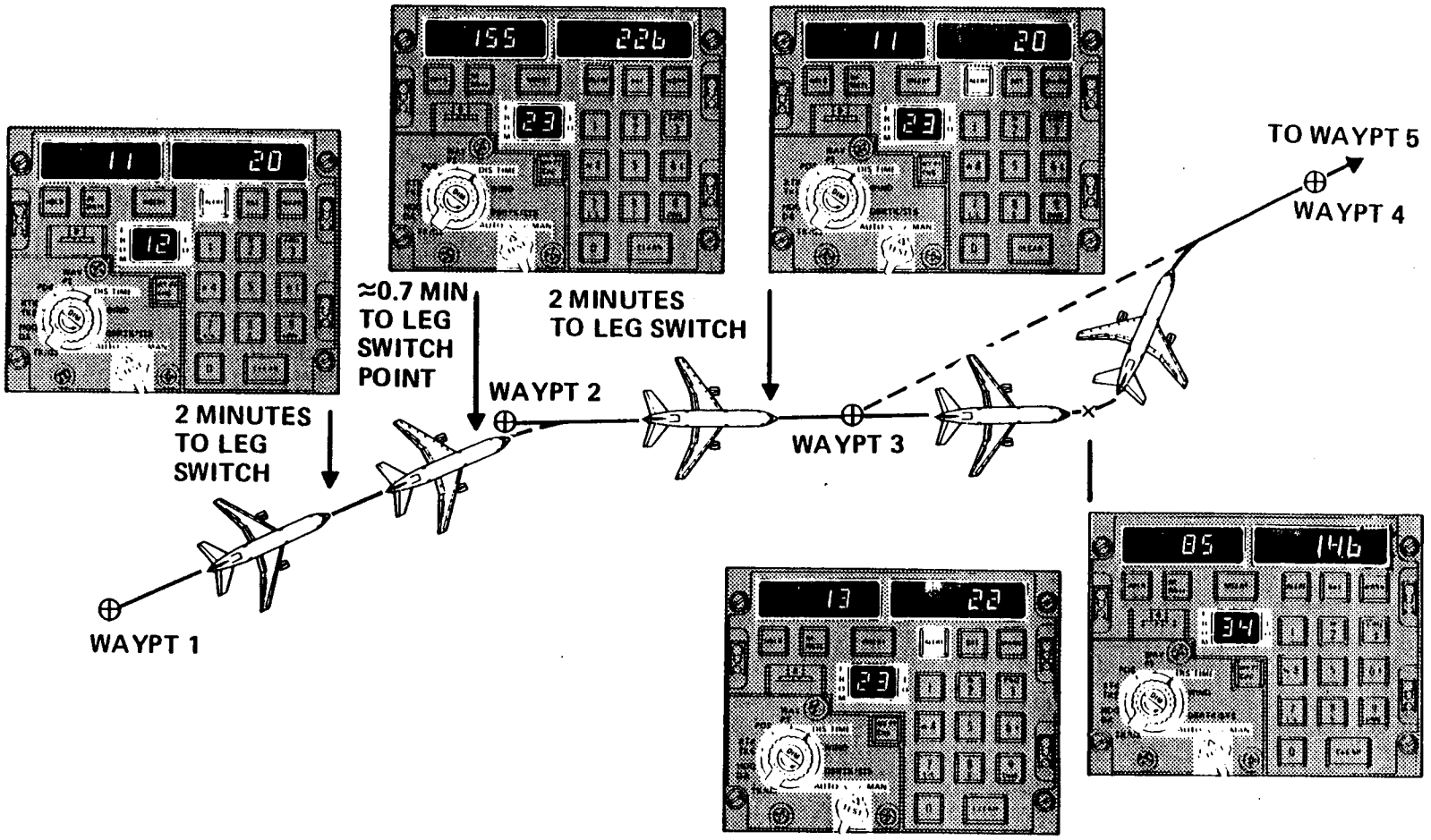


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WAYPOINT LOADING

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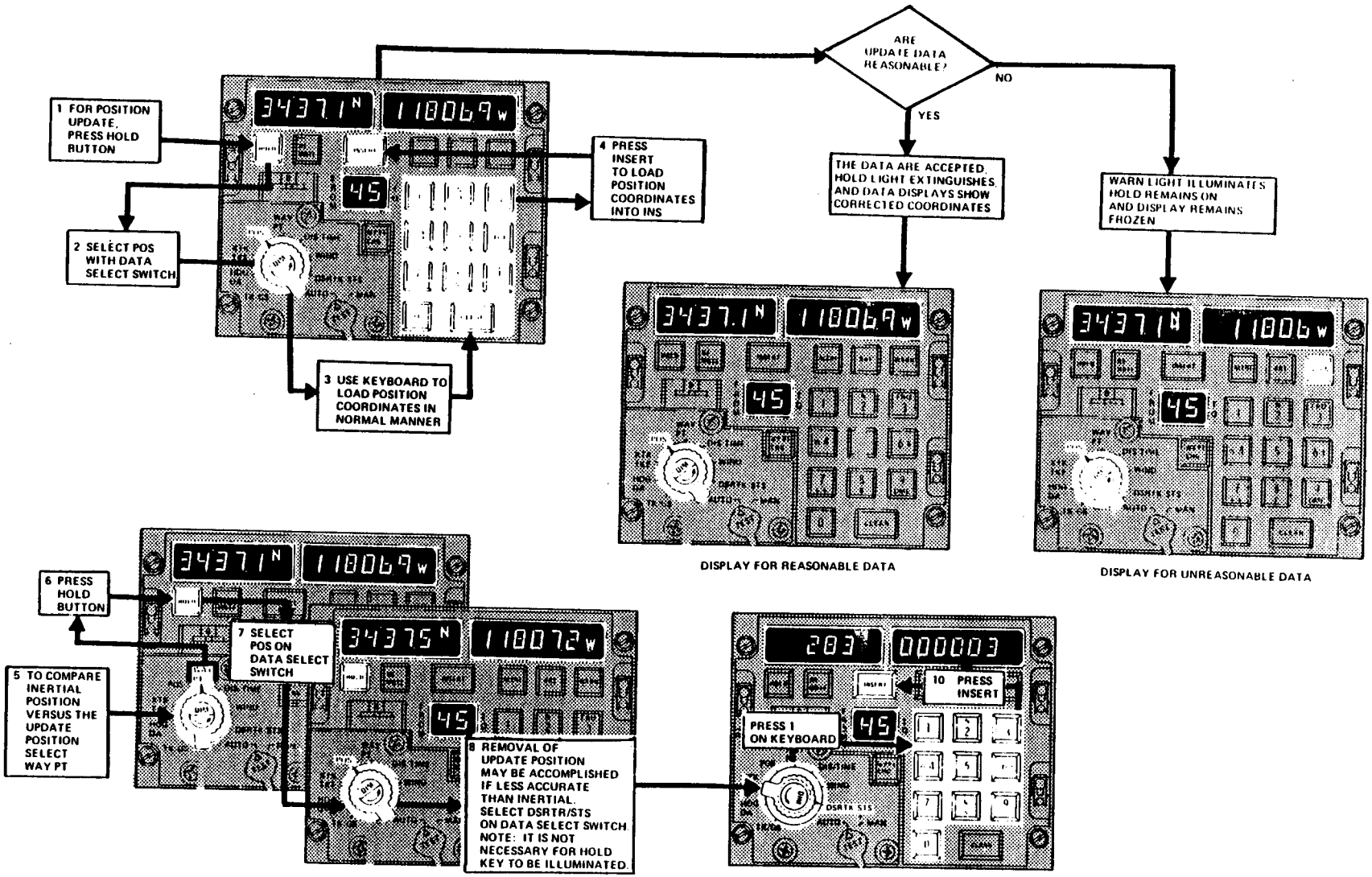


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AUTO LEG SWITCH

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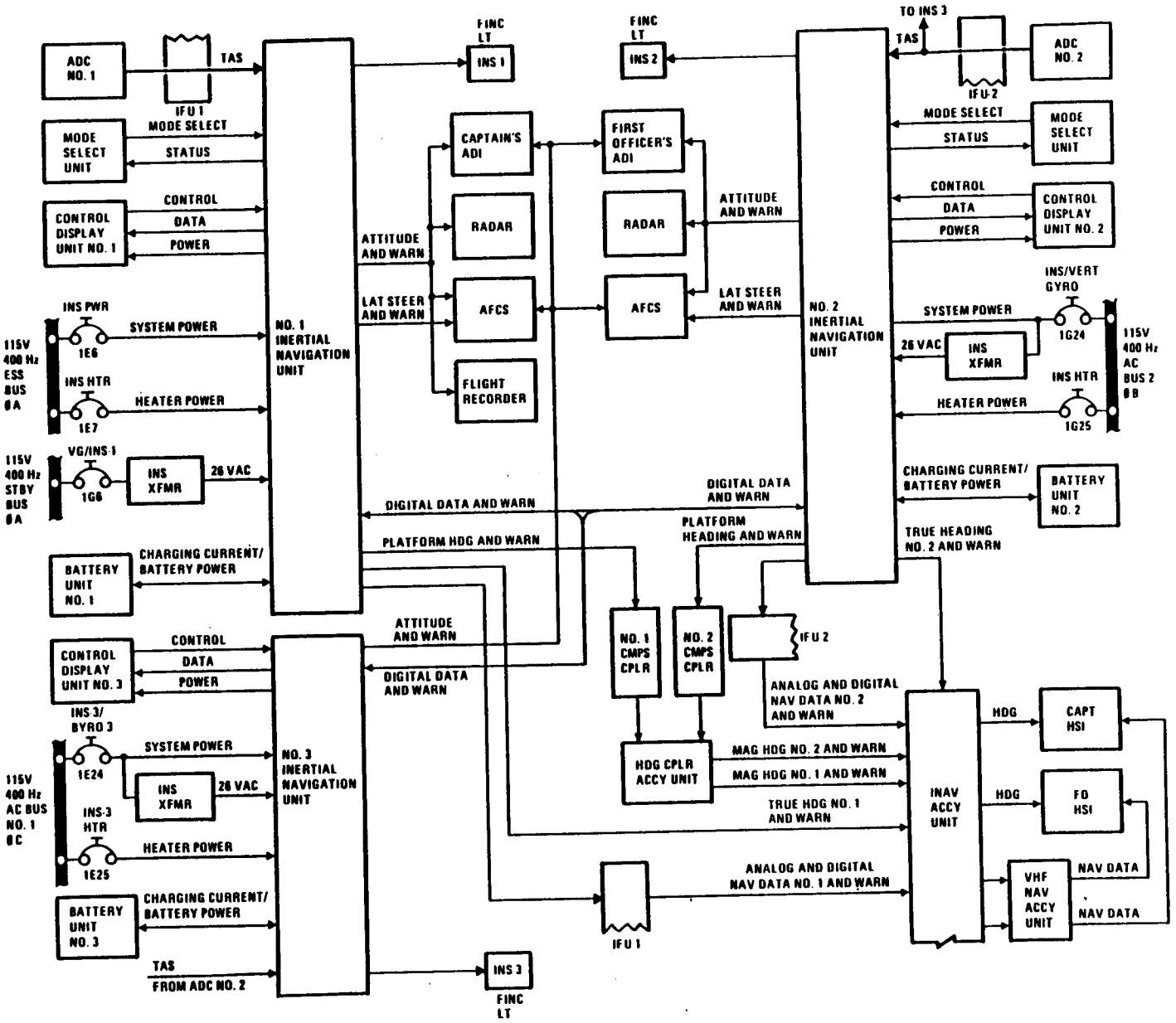

ARE UPDATE DATA REASONABLE?
NO
YES
1 FOR POSITION UPDATE, PRESS HOLD BUTTON
2 SELECT POS WITH DATA SELECT SWITCH
3 USE KEYBOARD TO LOAD POSITION COORDINATES IN NORMAL MANNER
4 PRESS INSERT TO LOAD POSITION COORDINATES INTO INS
THE DATA ARE ACCEPTED, HOLD LIGHT EXTINGUISHES, AND DATA DISPLAYS SHOW CORRECTED COORDINATES
WARN LIGHT ILLUMINATES HOLD REMAINS ON AND DISPLAY REMAINS FROZEN
DISPLAY FOR REASONABLE DATA
DISPLAY FOR UNREASONABLE DATA
5 TO COMPARE INERTIAL POSITION VERSUS THE UPDATE POSITION SELECT WAY PT
6 PRESS HOLD BUTTON
7 SELECT POS ON DATA SELECT SWITCH
8 REMOVAL OF UPDATE POSITION MAY BE ACCOMPLISHED IF LESS ACCURATE THAN INERTIAL. SELECT DSRTR/STS ON DATA SELECT SWITCH NOTE: IT IS NOT NECESSARY FOR HOLD KEY TO BE ILLUMINATED
10 PRESS INSERT
PRESS 1 ON KEYBOARD

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POSITION UPDATING AND REMOVAL

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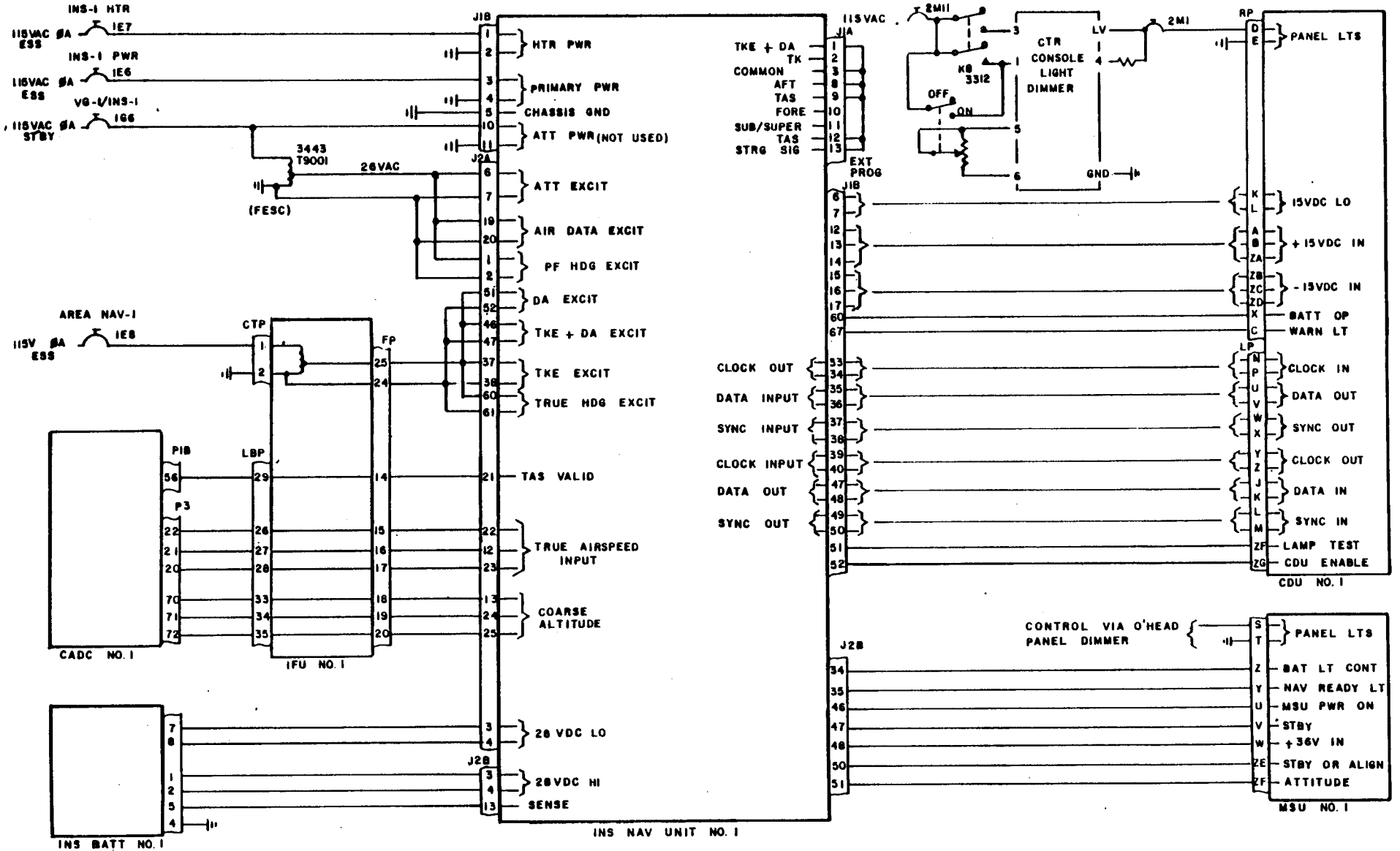


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INERTIAL NAVIGATION SYSTEM BLOCK DIAGRAM

FOR TRAINING PURPOSES ONLY

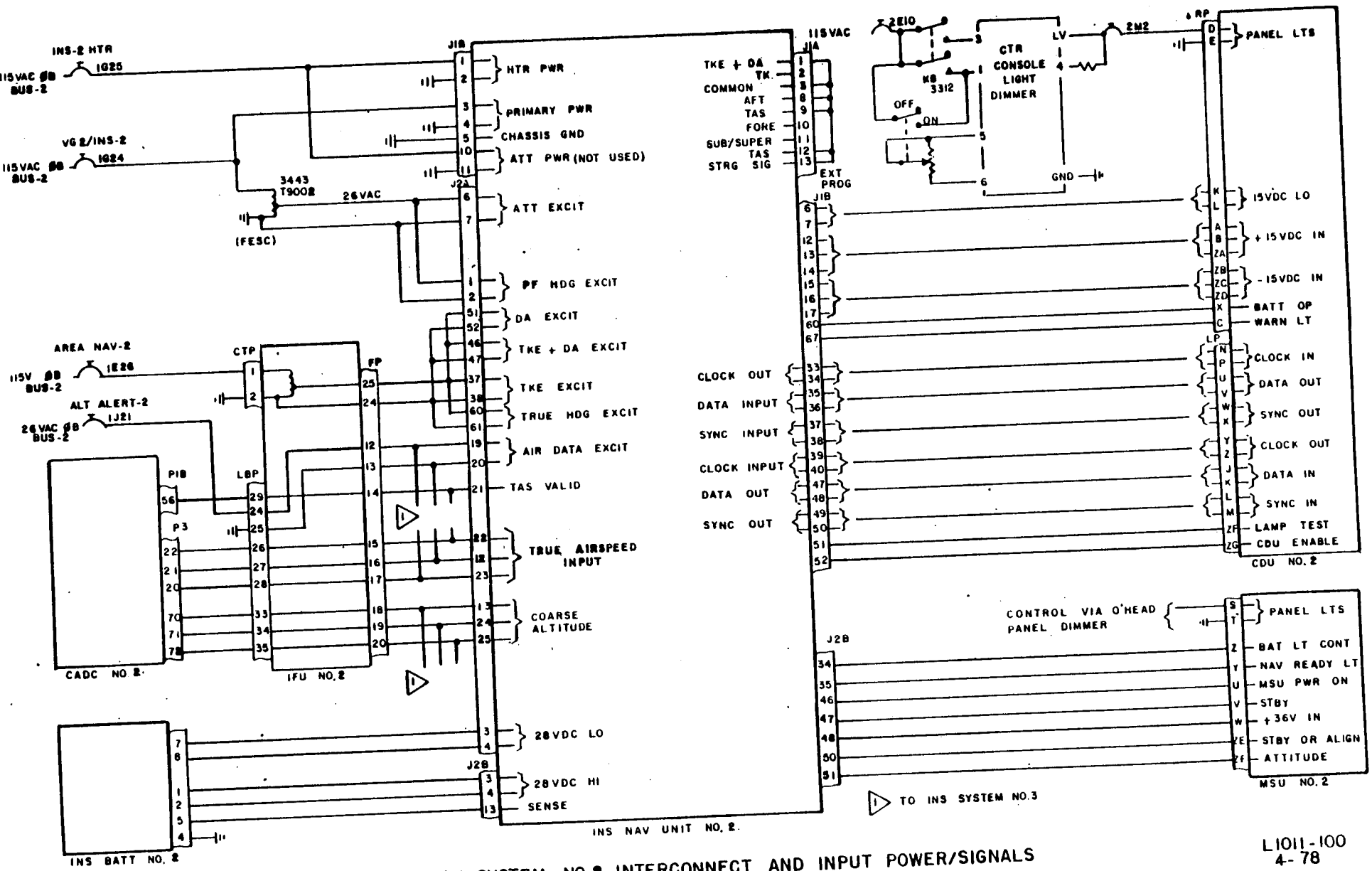
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34-43-56TW

INERTIAL NAV SYSTEM NO. 1 INTERCONNECT AND INPUT POWER/SIGNALS

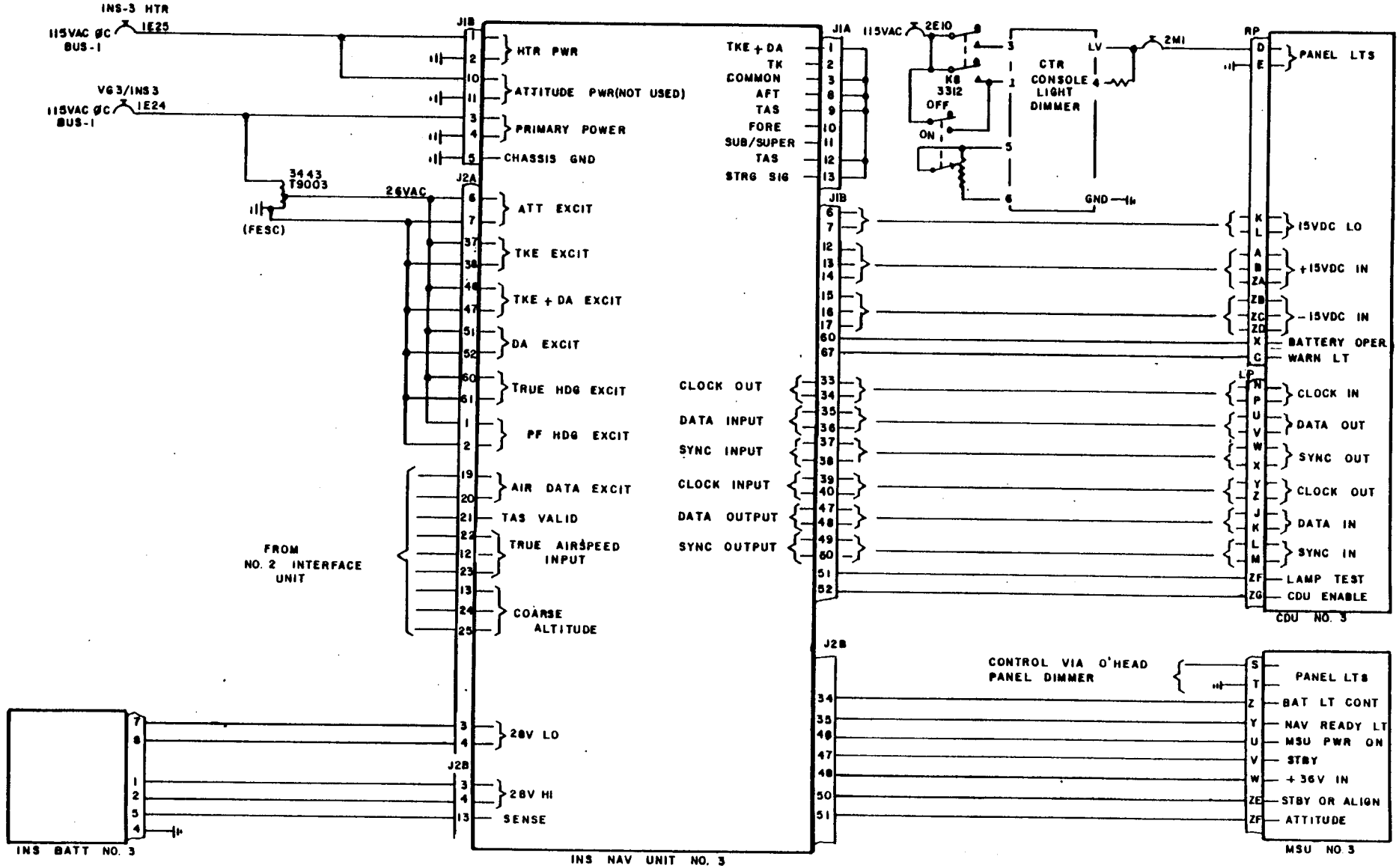
L1011-100
4-78



34-43-57TW

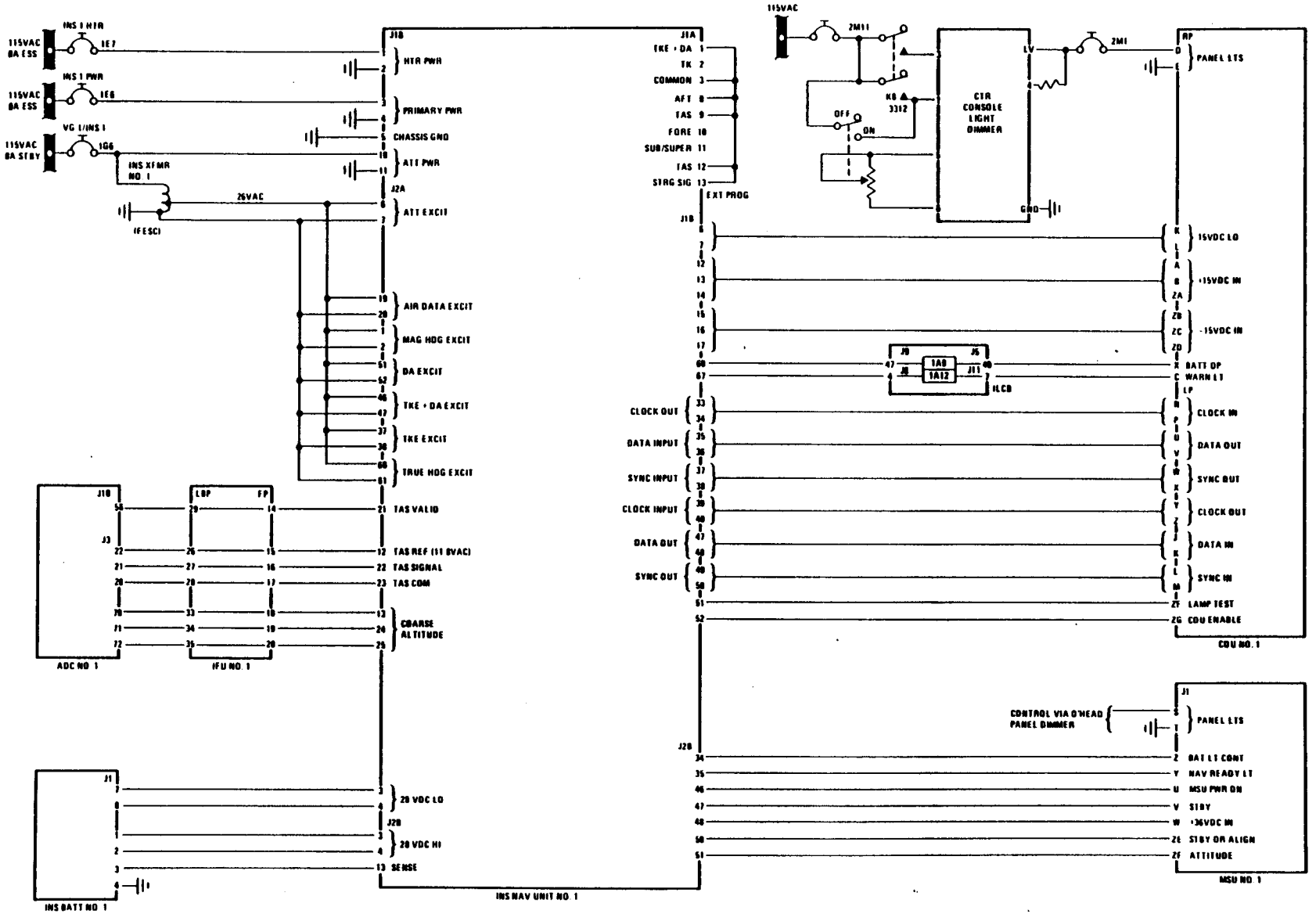
INERTIAL NAV SYSTEM NO. 2 INTERCONNECT AND INPUT POWER/SIGNALS

L1011-100
4-78



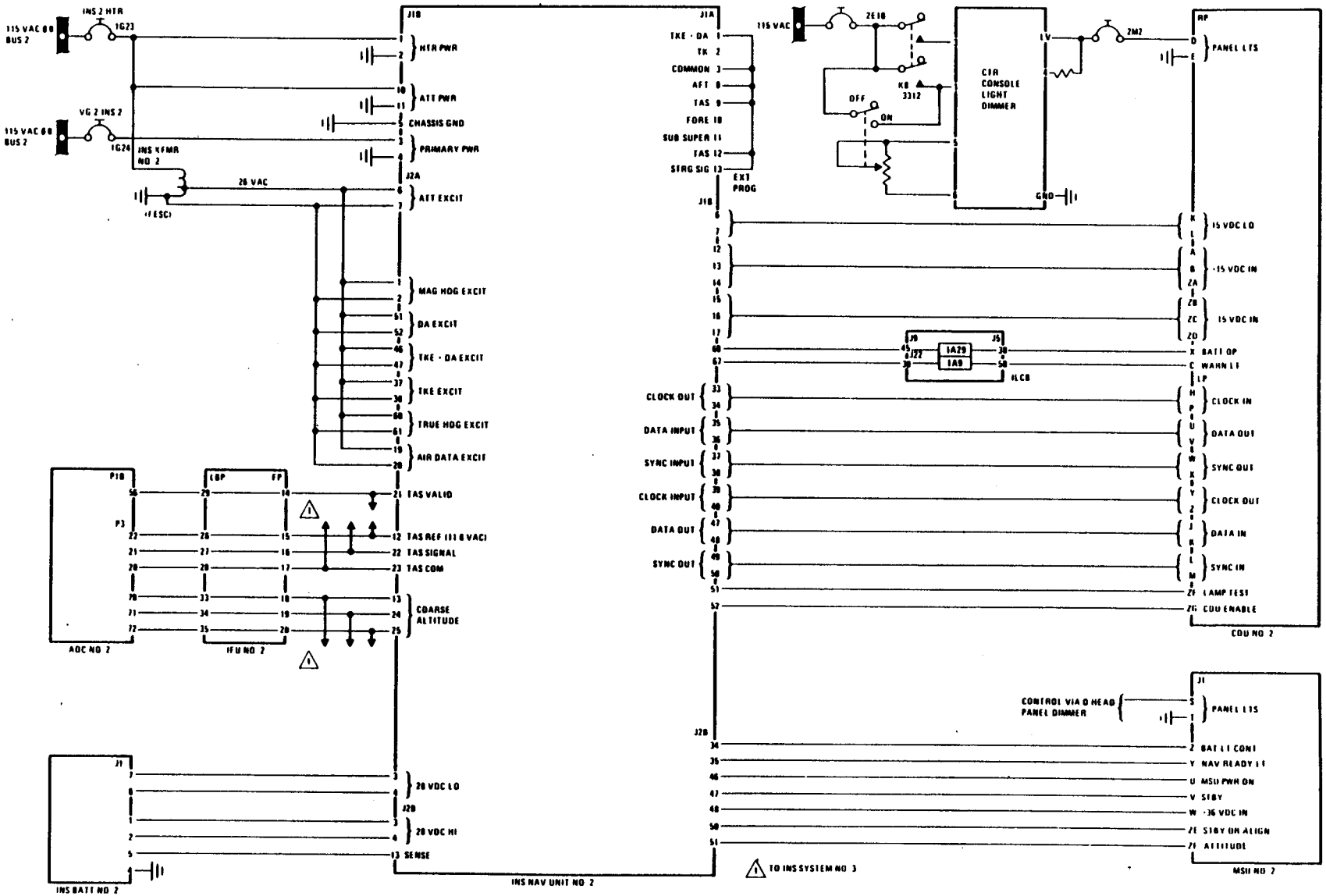
34-43-58TW

INERTIAL NAV SYSTEM NO. 3 INTERCONNECT AND INPUT POWER/SIGNALS



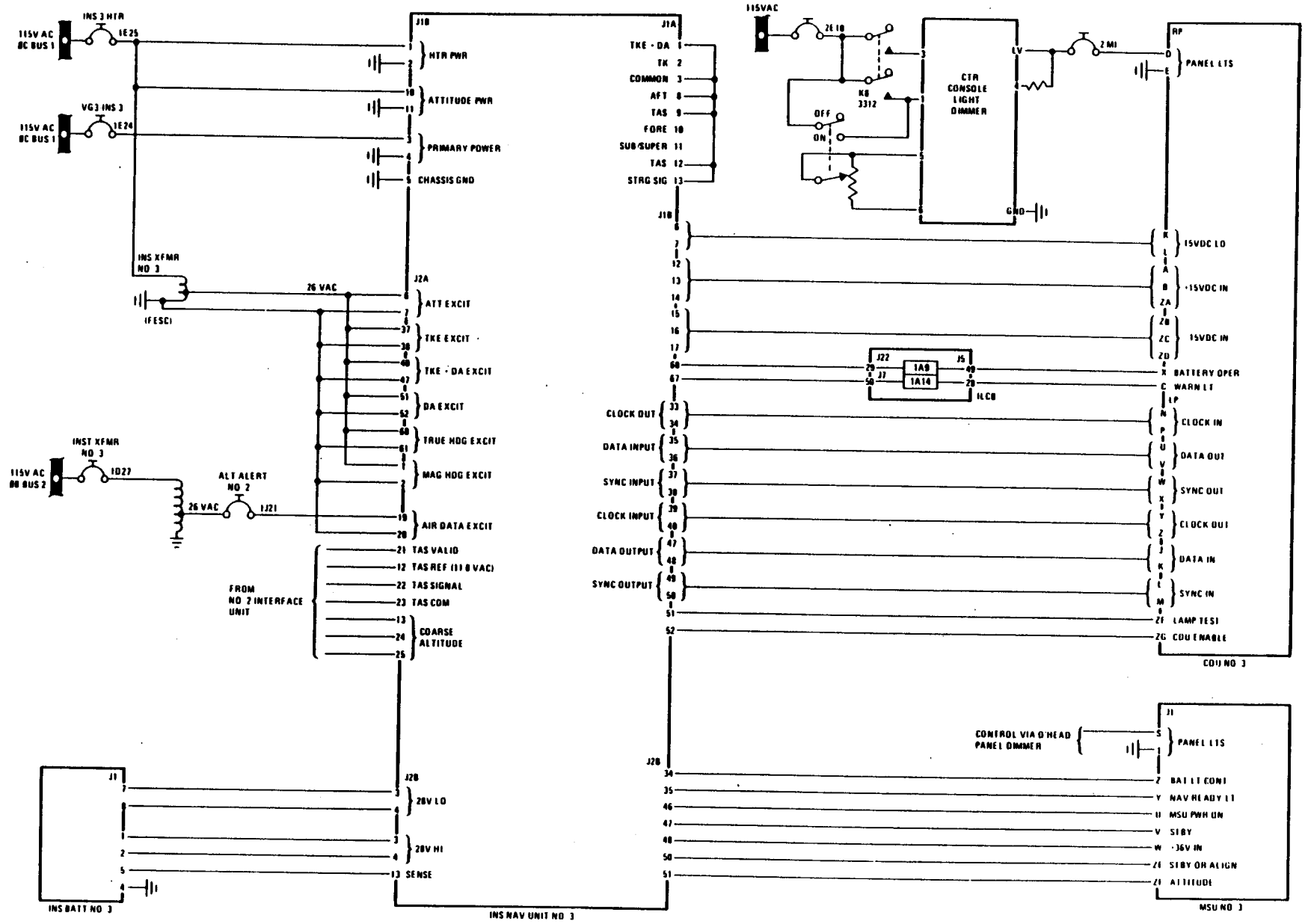
INS NO. 1 INTERCONNECT AND INPUT POWER/SIGNALS

FOR TRAINING PURPOSES ONLY



INS NO. 2 INTERCONNECT AND INPUT POWER/SIGNALS

FOR TRAINING PURPOSES ONLY

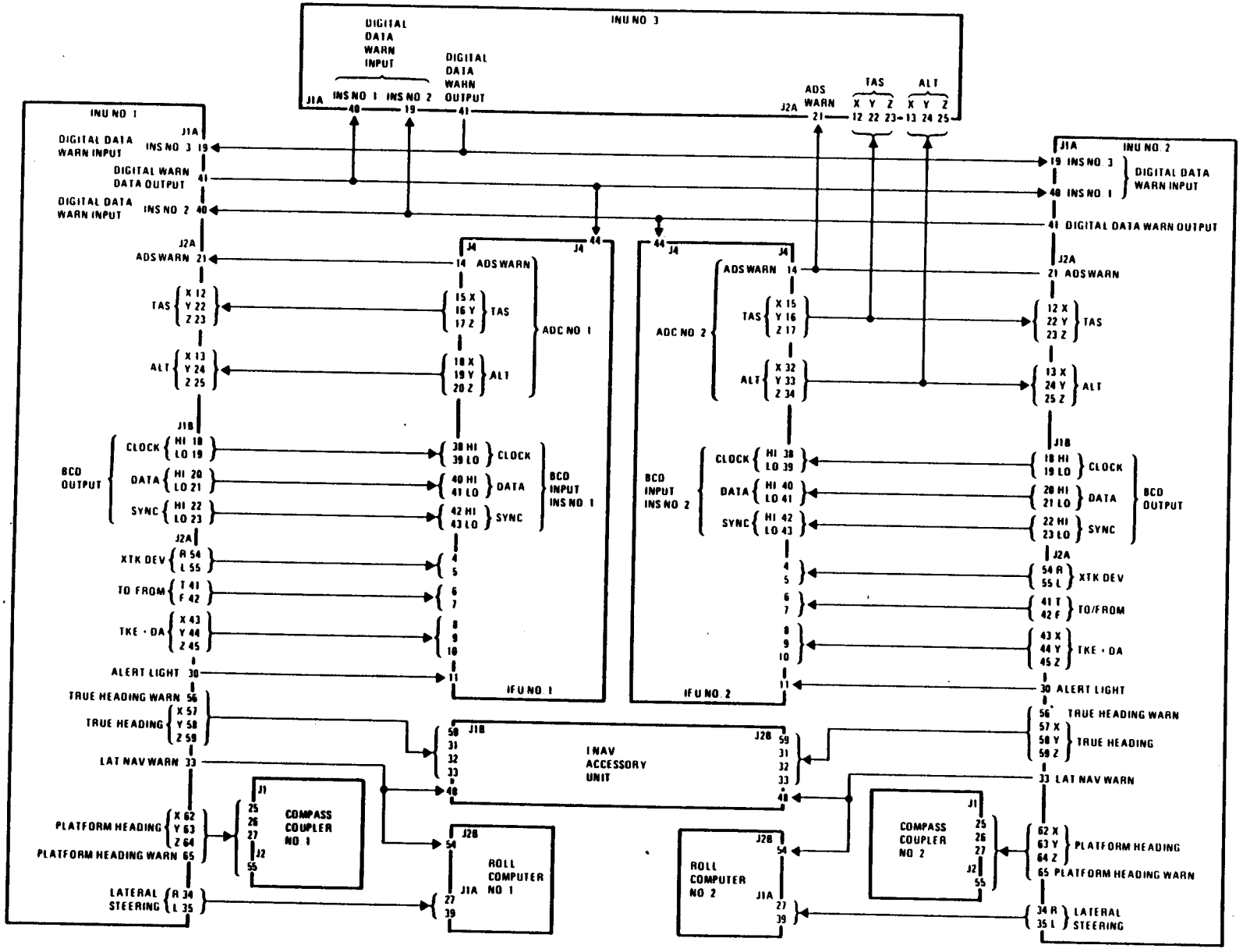


INS NO. 3 INTERCONNECT AND INPUT POWER/SIGNALS

FOR TRAINING PURPOSES ONLY

T-34-43-0000-966

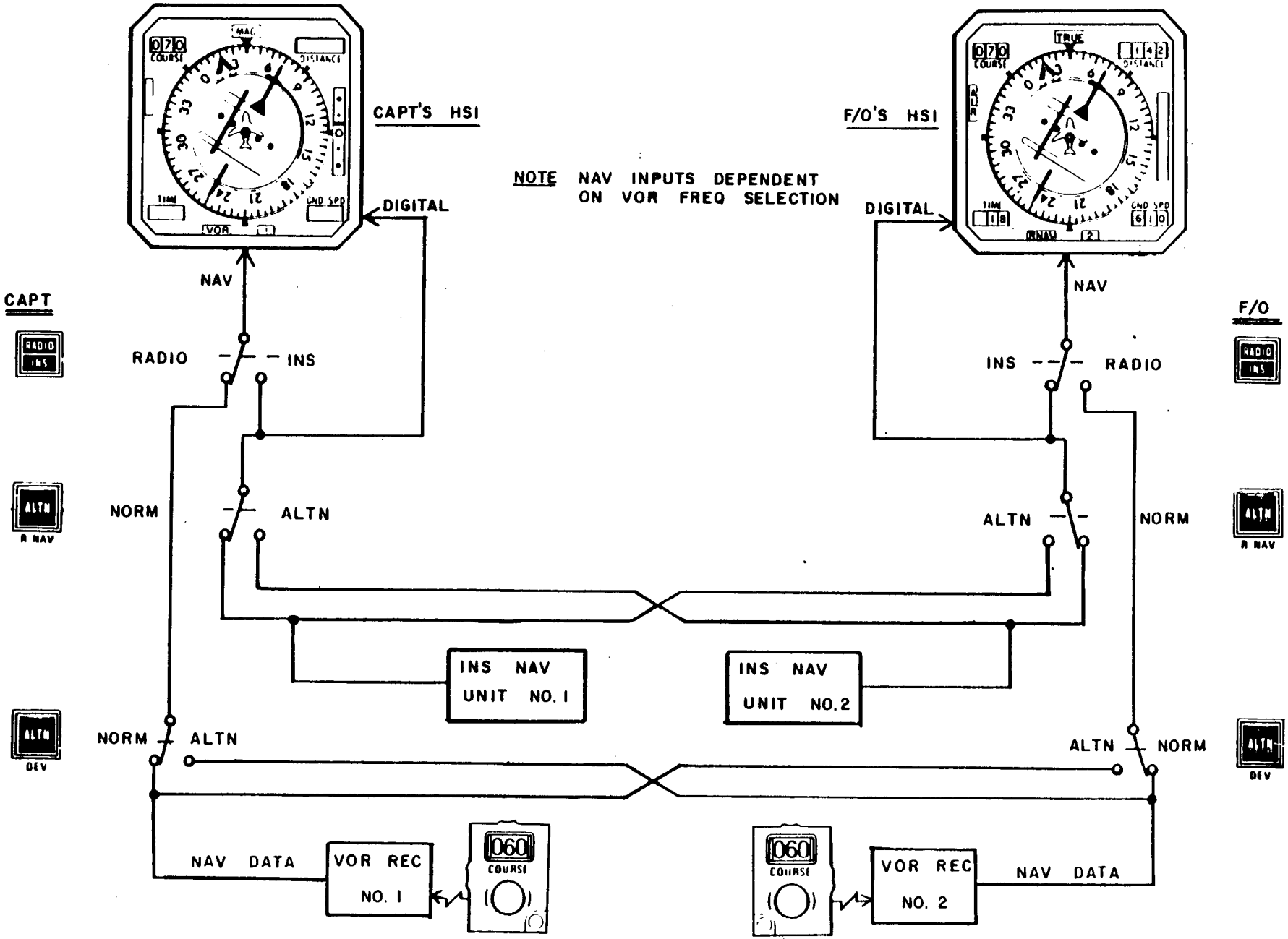
L-1011



T34-43-0000-956

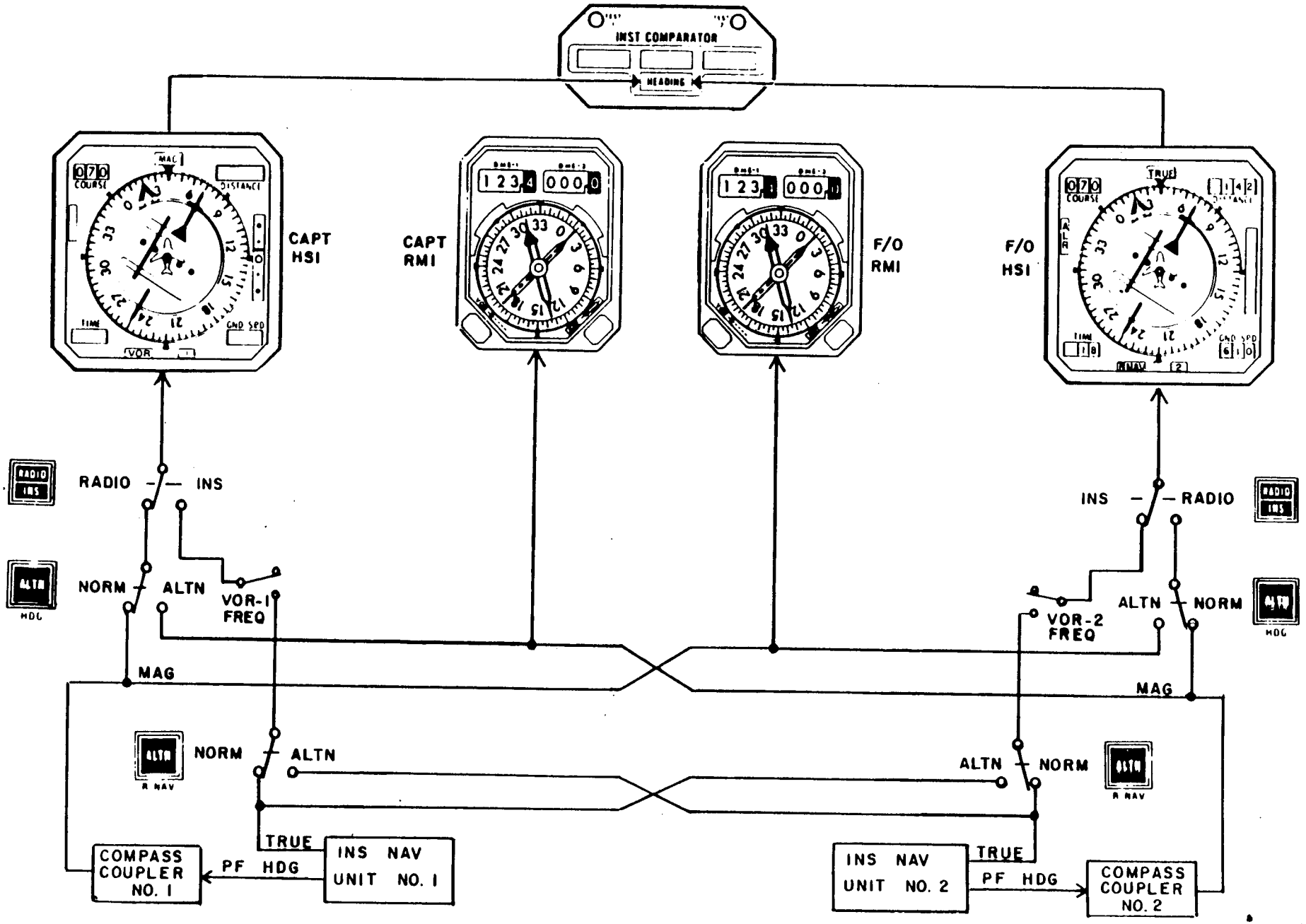
INS DATA INTERFACE

FOR TRAINING PURPOSES ONLY



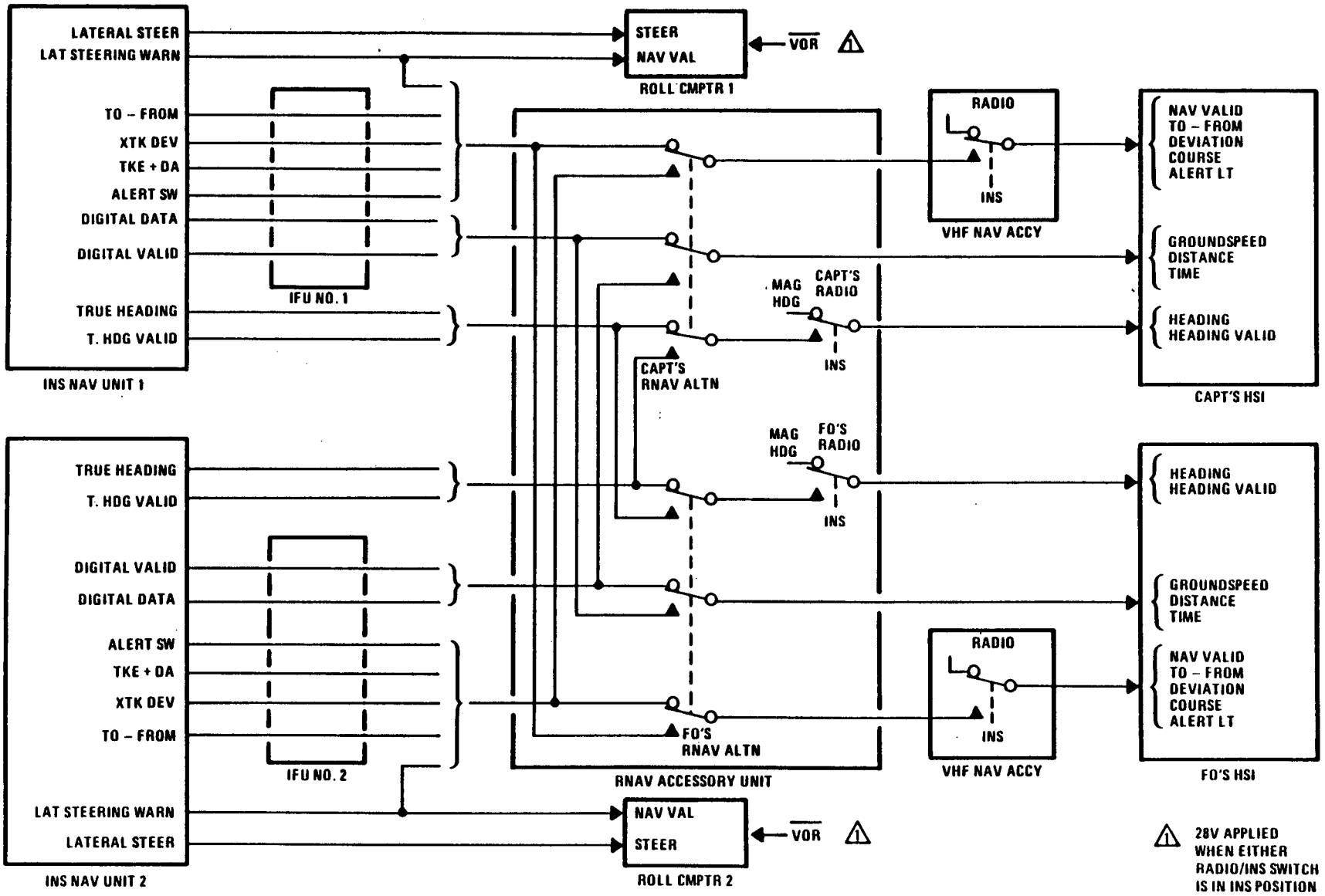
T34-43-06 TW

INS/RADIO OPERATION SIGNAL FLOW



T34-43-07TW

INS/COMPASS OPERATION SIGNAL FLOW

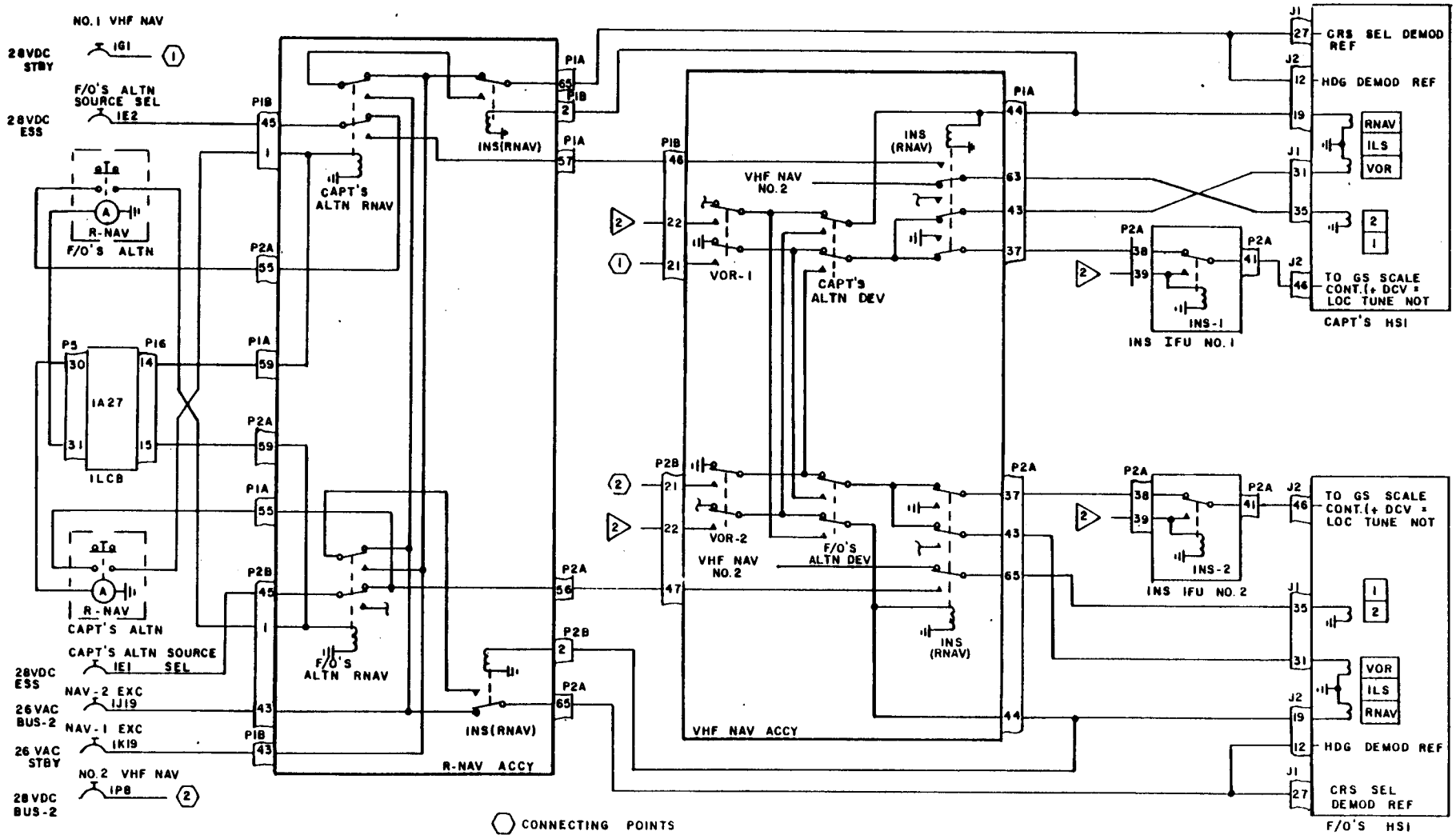


T-34-43-0000-959

INS DATA SWITCHING

FOR TRAINING PURPOSES ONLY

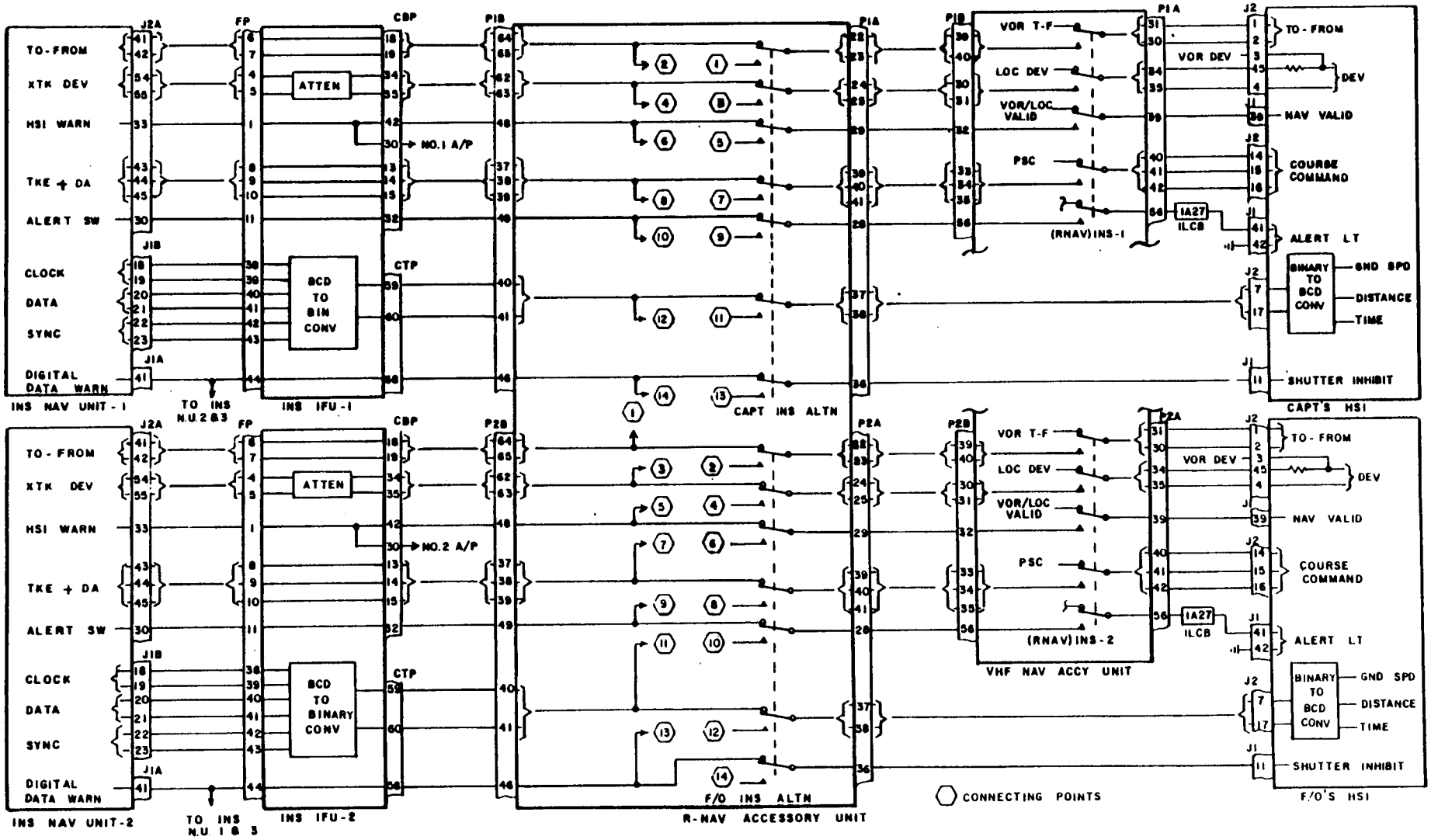
L-1011



34-43-51TW

INS SOURCE SELECT AND NAV ANNUNCIATION SCHEMATIC

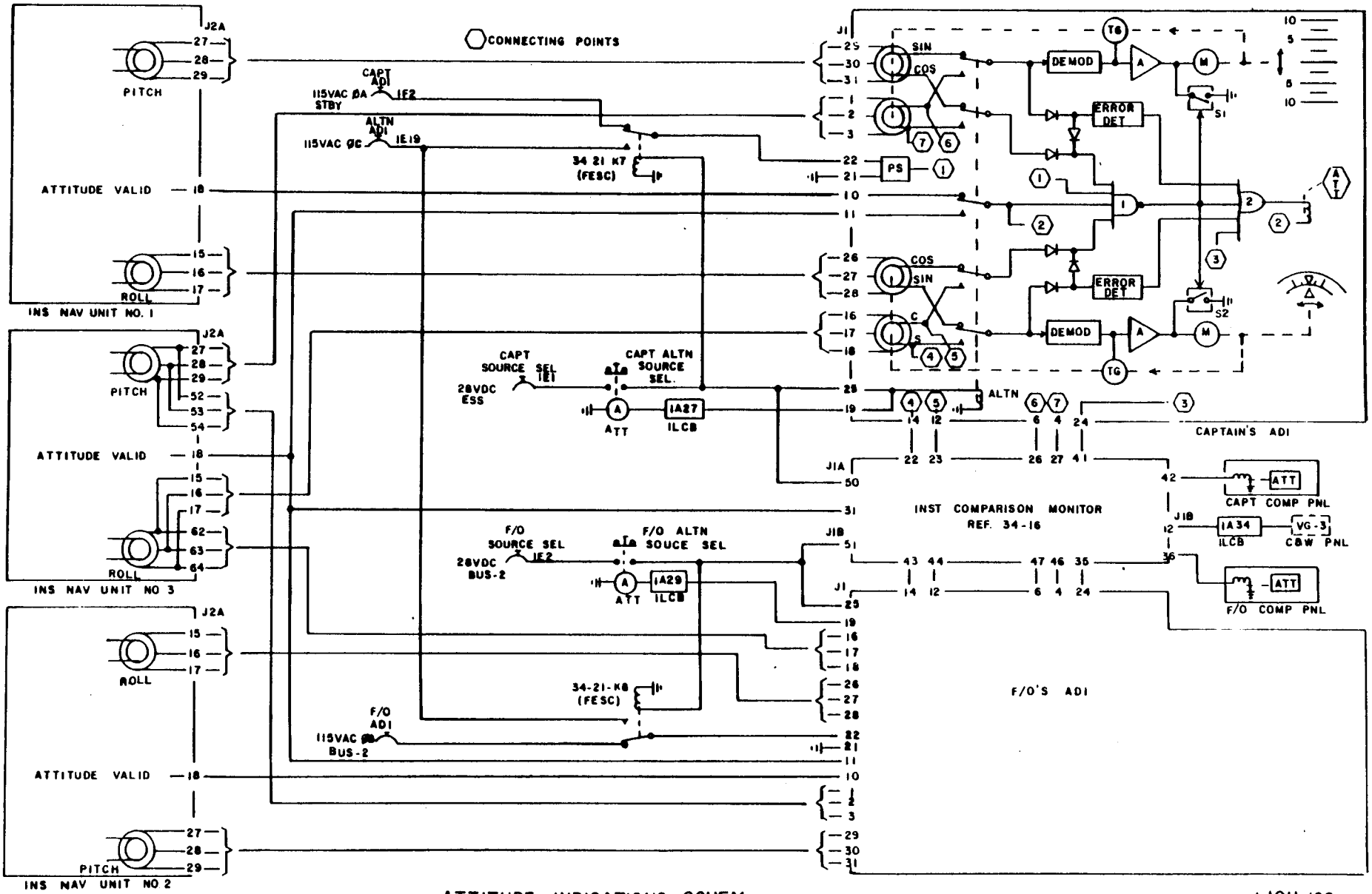
L1011-100
4-78



34-43-52TW

INS NAV DATA SCHEMATIC

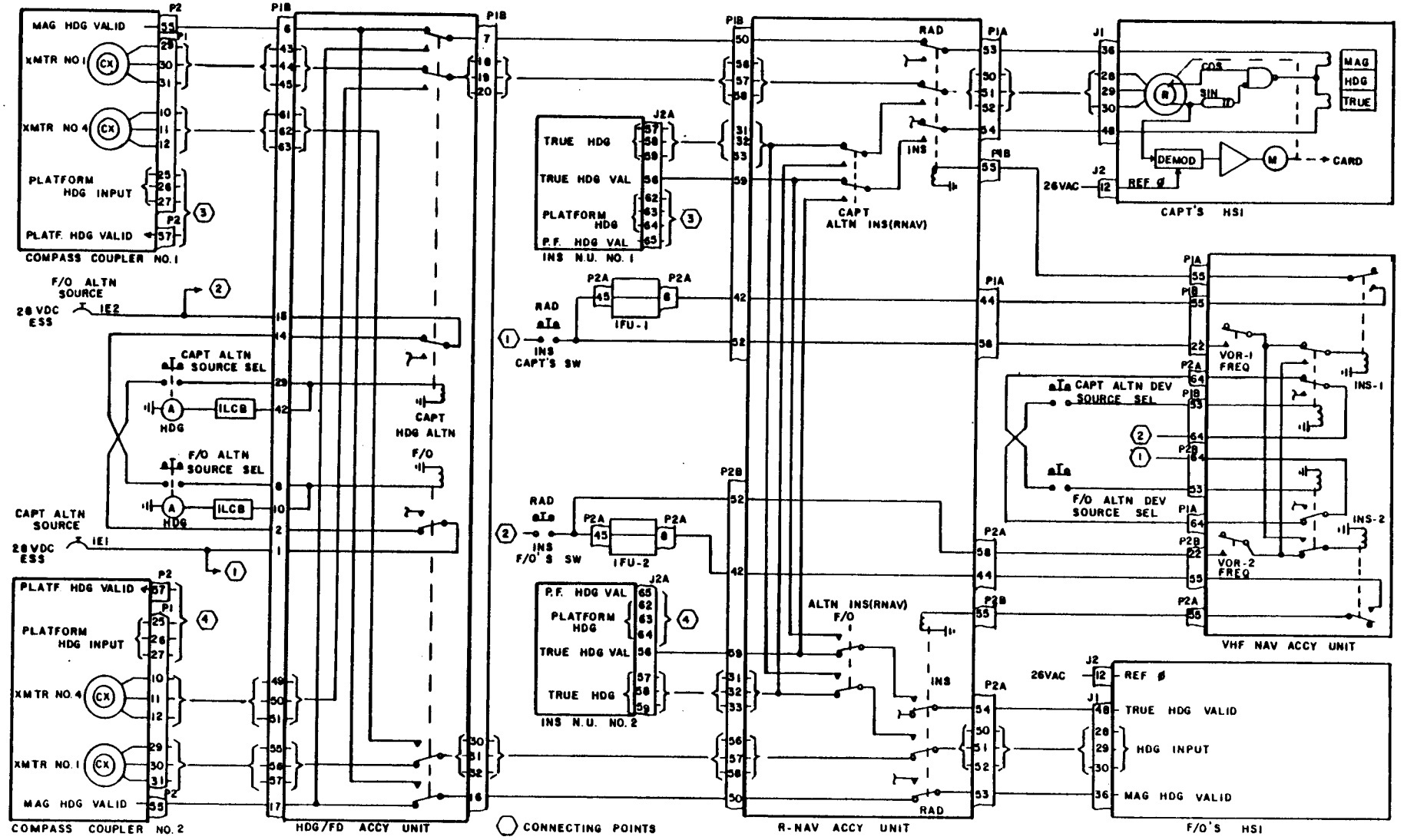
L1011-100
1-78



34-43-53TW

ATTITUDE INDICATIONS SCHEM

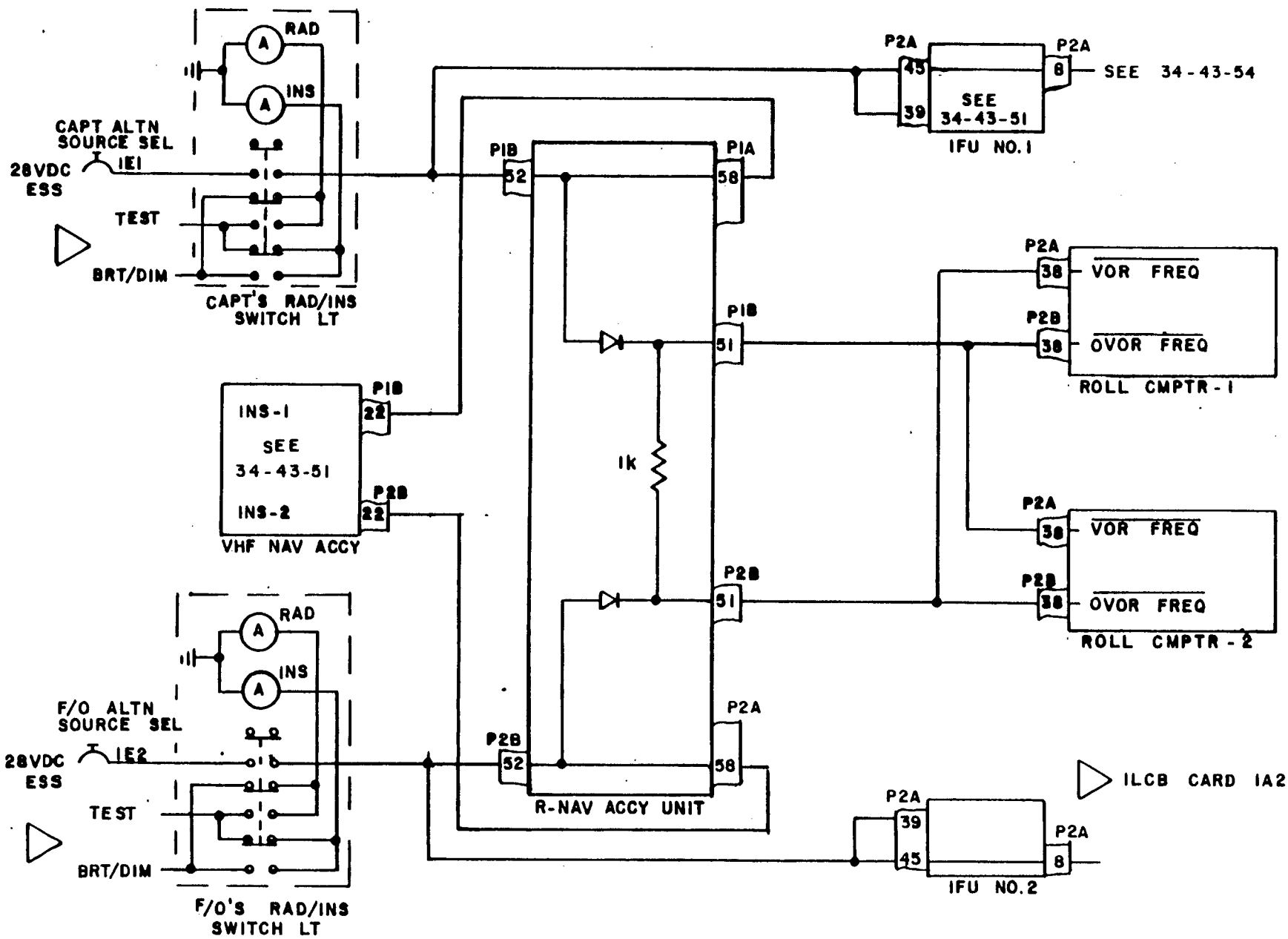
L1011-100
1-78



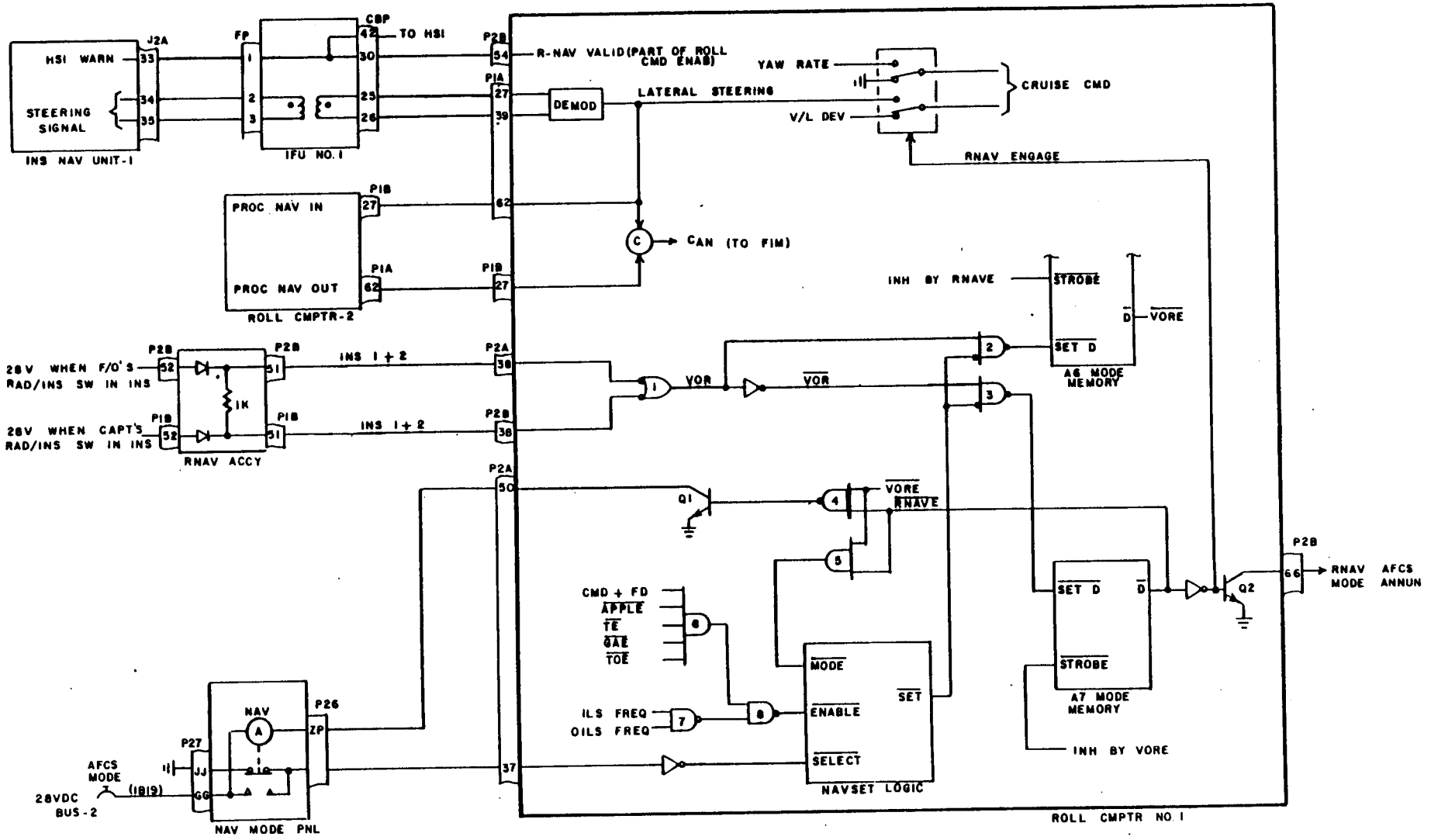
34-43-54TW

INS/HEADING INTERFACE SCHEMATIC

L1011-100
5-78



34-43-50 TW RAD/INS SWITCHING INTERFACE DIAGRAM

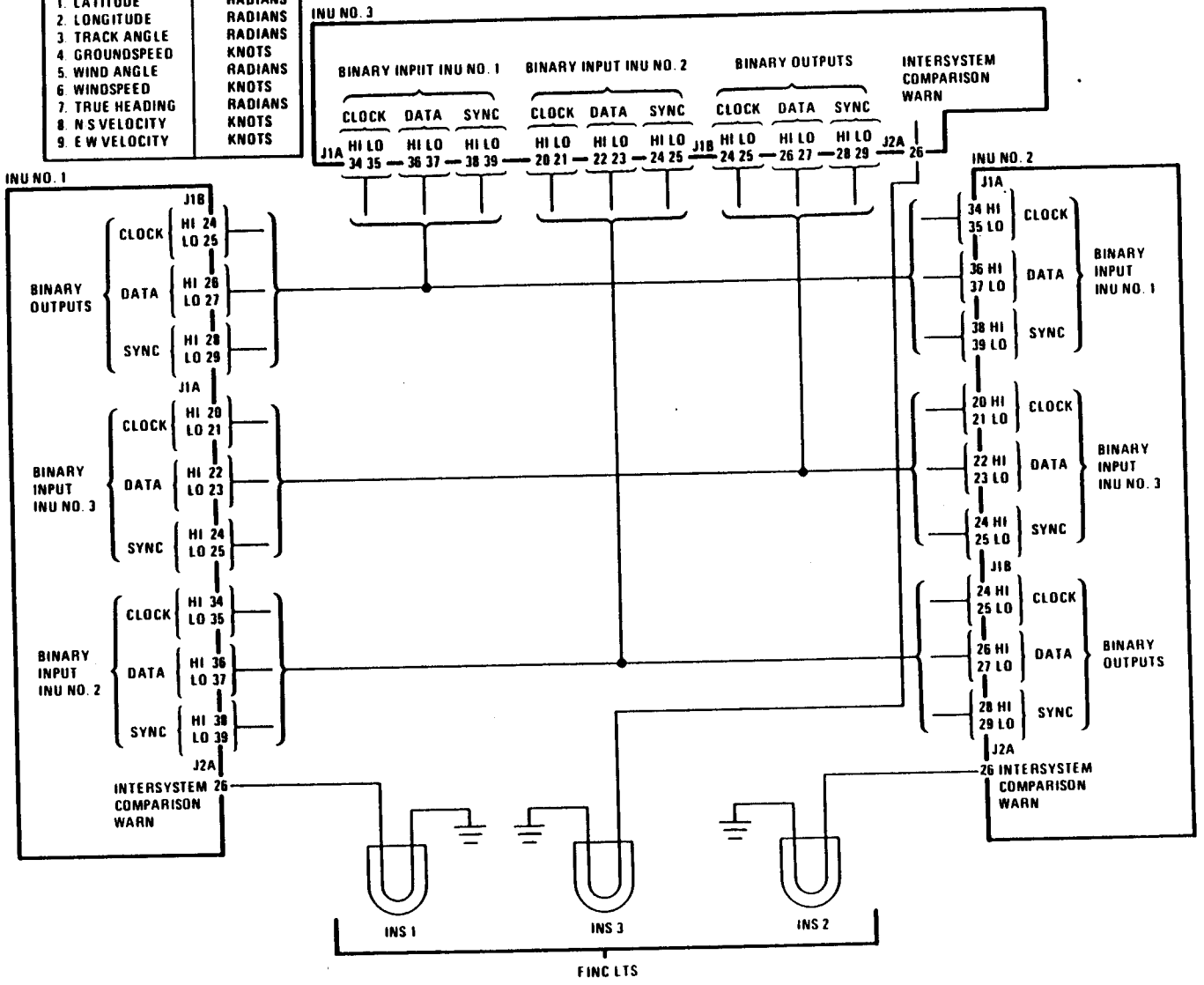


T34-43-55TW

(INS/APCS) LATERAL STEERING FUNCTIONAL SCHEMATIC

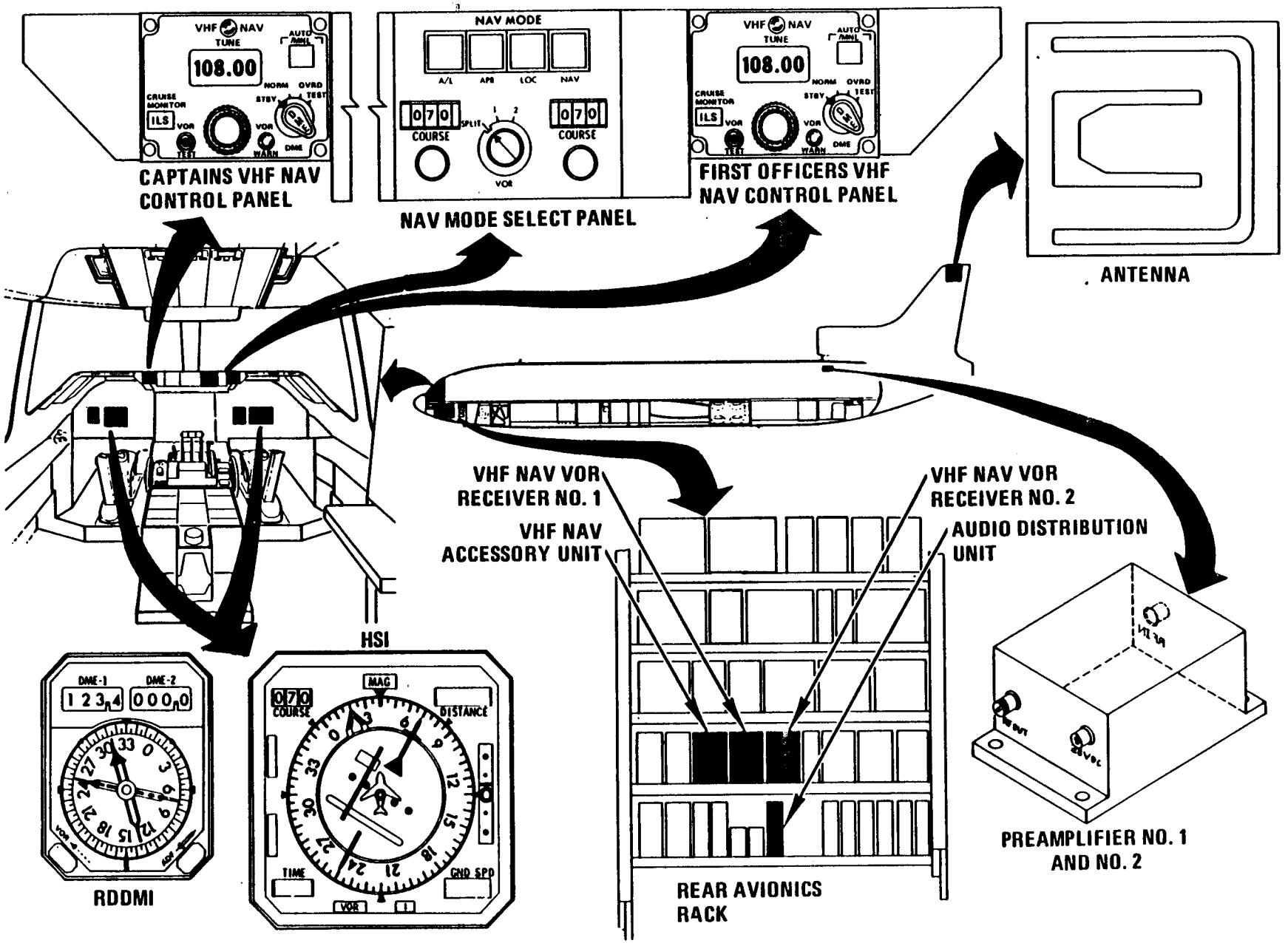
L1011-100
5-78

BINARY OUTPUTS OF THE INUs	
ITEM	UNITS
1. LATITUDE	RADIANS
2. LONGITUDE	RADIANS
3. TRACK ANGLE	RADIANS
4. GROUNDSPEED	KNOTS
5. WIND ANGLE	RADIANS
6. WINDSPEED	KNOTS
7. TRUE HEADING	RADIANS
8. N S VELOCITY	KNOTS
9. E W VELOCITY	KNOTS


INU NO. 3
BINARY INPUT INU NO. 1
BINARY INPUT INU NO. 2
BINARY OUTPUTS
INTERSYSTEM COMPARISON WARN
CLOCK DATA SYNC
J1A HI LO 34 35 — 36 37 — 38 39
HI LO 20 21 — 22 23 — 24 25
J1B HI LO 24 25 — 26 27 — 28 29
J2A 26
INU NO. 1
J1B
BINARY OUTPUTS
CLOCK HI 24 LO 25
DATA HI 26 LO 27
SYNC HI 28 LO 29
J1A
BINARY INPUT INU NO. 3
CLOCK HI 20 LO 21
DATA HI 22 LO 23
SYNC HI 24 LO 25
BINARY INPUT INU NO. 2
CLOCK HI 34 LO 35
DATA HI 36 LO 37
SYNC HI 38 LO 39
J2A
INTERSYSTEM COMPARISON WARN 26
INU NO. 2
J1A
34 HI 35 LO CLOCK
36 HI 37 LO DATA
38 HI 39 LO SYNC
BINARY INPUT INU NO. 1
20 HI 21 LO CLOCK
22 HI 23 LO DATA
24 HI 25 LO SYNC
BINARY INPUT INU NO. 3
J1B
24 HI 25 LO CLOCK
26 HI 27 LO DATA
28 HI 29 LO SYNC
BINARY OUTPUTS
J2A
26 INTERSYSTEM COMPARISON WARN
INS 1
INS 3
INS 2
FINC LTS

INTERSYSTEM DATA BUS

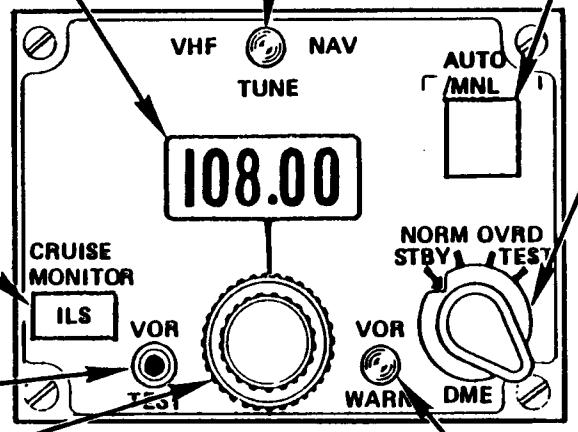
FOR TRAINING PURPOSES ONLY



T-34-55-0003-040

VHF NAVIGATION (VOR) SYSTEM COMPONENT LOCATION

L-1011
1/73



VOR/LOC FREQUENCY DISPLAY

VOR FREQUENCIES:

108.00 – 112.00 MHz
IN EVEN TENTHS

112.00 – 117.95 MHz
IN ALL TENTHS

LOC FREQUENCIES:

108.10 – 111.95 MHz
IN ODD TENTHS

TUNE LIGHT
(NOT CONNECTED)

AUTO/MANUAL SWITCH
(NOT CONNECTED)

DME CONTROL

STBY – RECEIVER IS OPERATING BUT TRANSMITTER IS INHIBITED.
4 DASHES IN DME DISPLAY WINDOW

NORM – 200 NM SEARCH

OVRD – 390 NM SEARCH

TEST – (SPRING-LOADED) COMPLETE DME SELF-TEST

CRUISE MONITOR INDICATOR

LIGHTS TO ANNUNCIATE FAILURE OF ILS DURING CRUISE

VOR TEST PUSHBUTTON

VOR/LOC FREQUENCY SELECTOR KNOBS

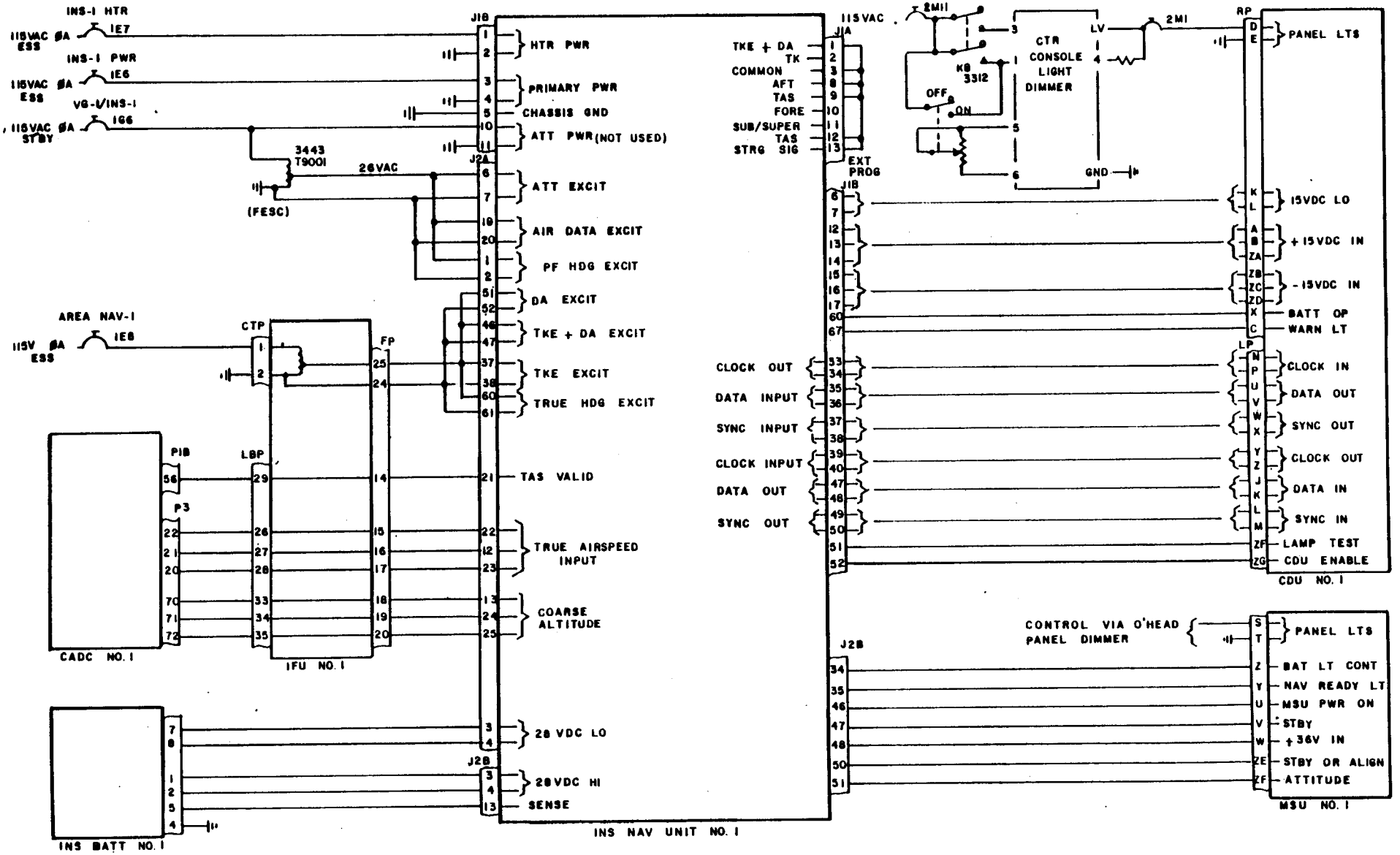
WHEN A VOR OR LOC FREQUENCY IS SELECTED, THE CORRESPONDING DME IS ALSO SELECTED

WHEN A LOC FREQUENCY IS SELECTED, THE CORRESPONDING GLIDE SLOPE IS ALSO SELECTED

VOR WARN ANNUNCIATOR

ILLUMINATES TO INDICATE VOR TEST PUSHBUTTON DEPRESSED

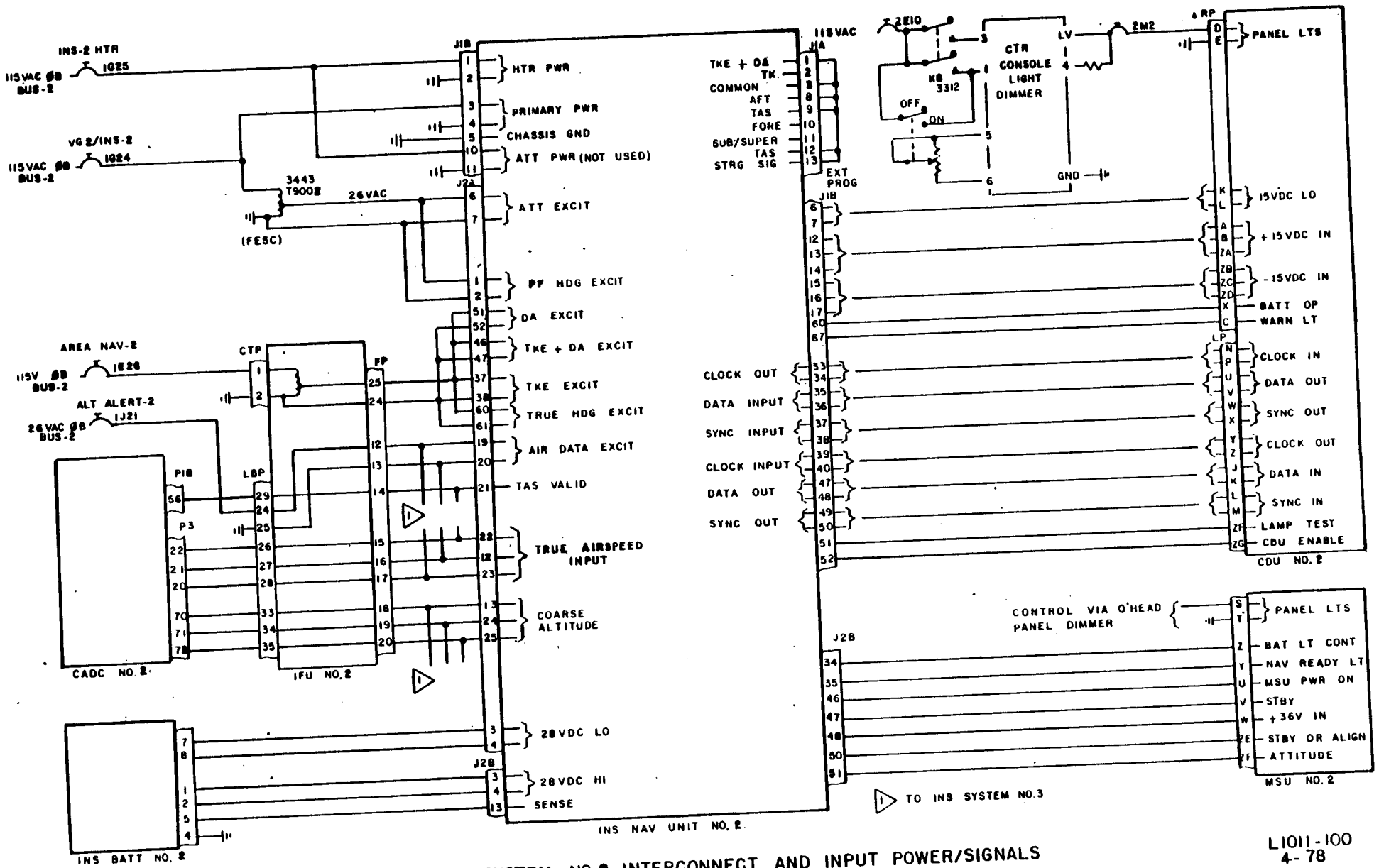
VHF NAV CONTROL PANEL



34-43-56 TW

INERTIAL NAV SYSTEM NO. 1 INTERCONNECT AND INPUT POWER/SIGNALS

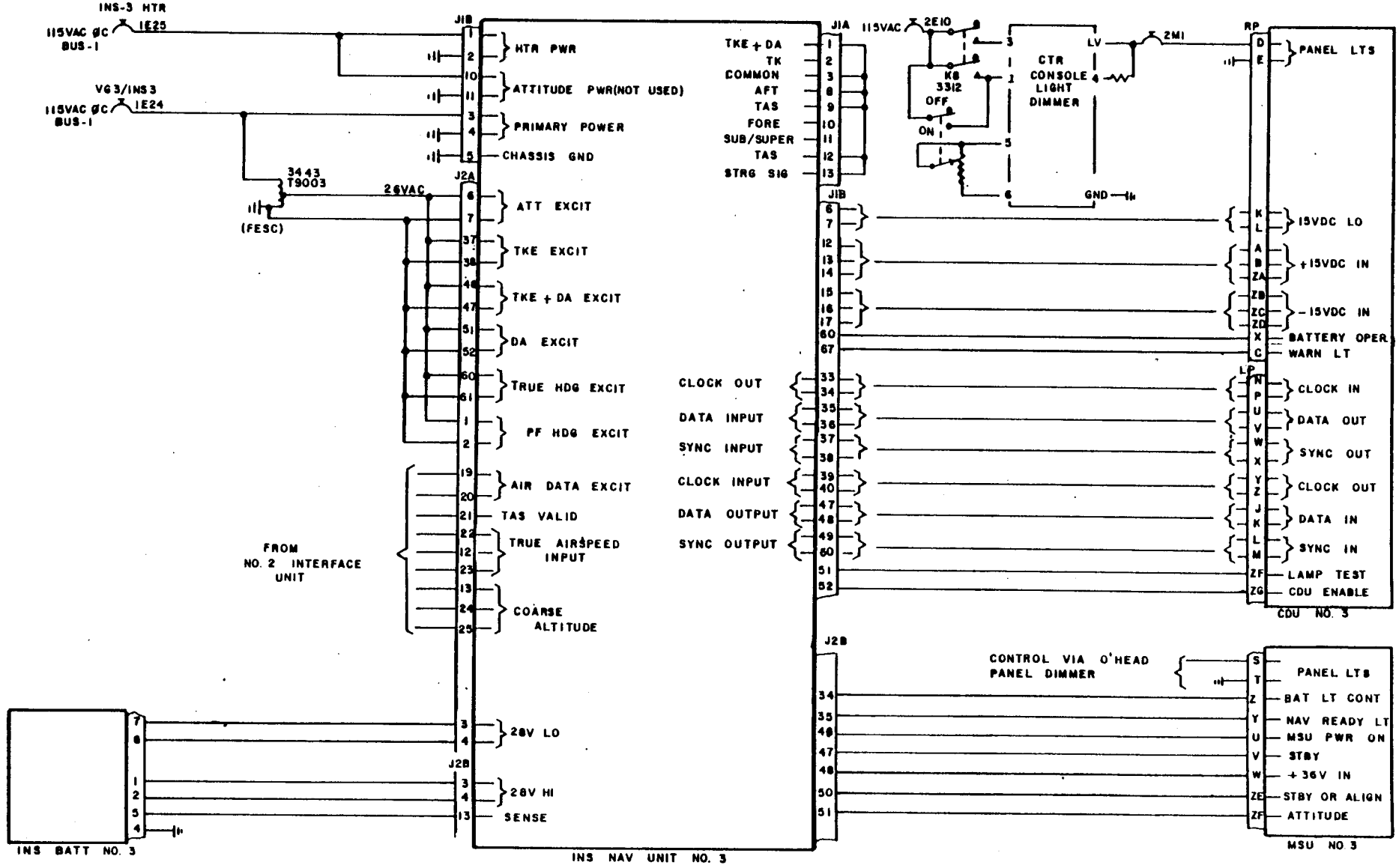
L1011-100
4-78



INERTIAL NAV SYSTEM NO. 2 INTERCONNECT AND INPUT POWER/SIGNALS

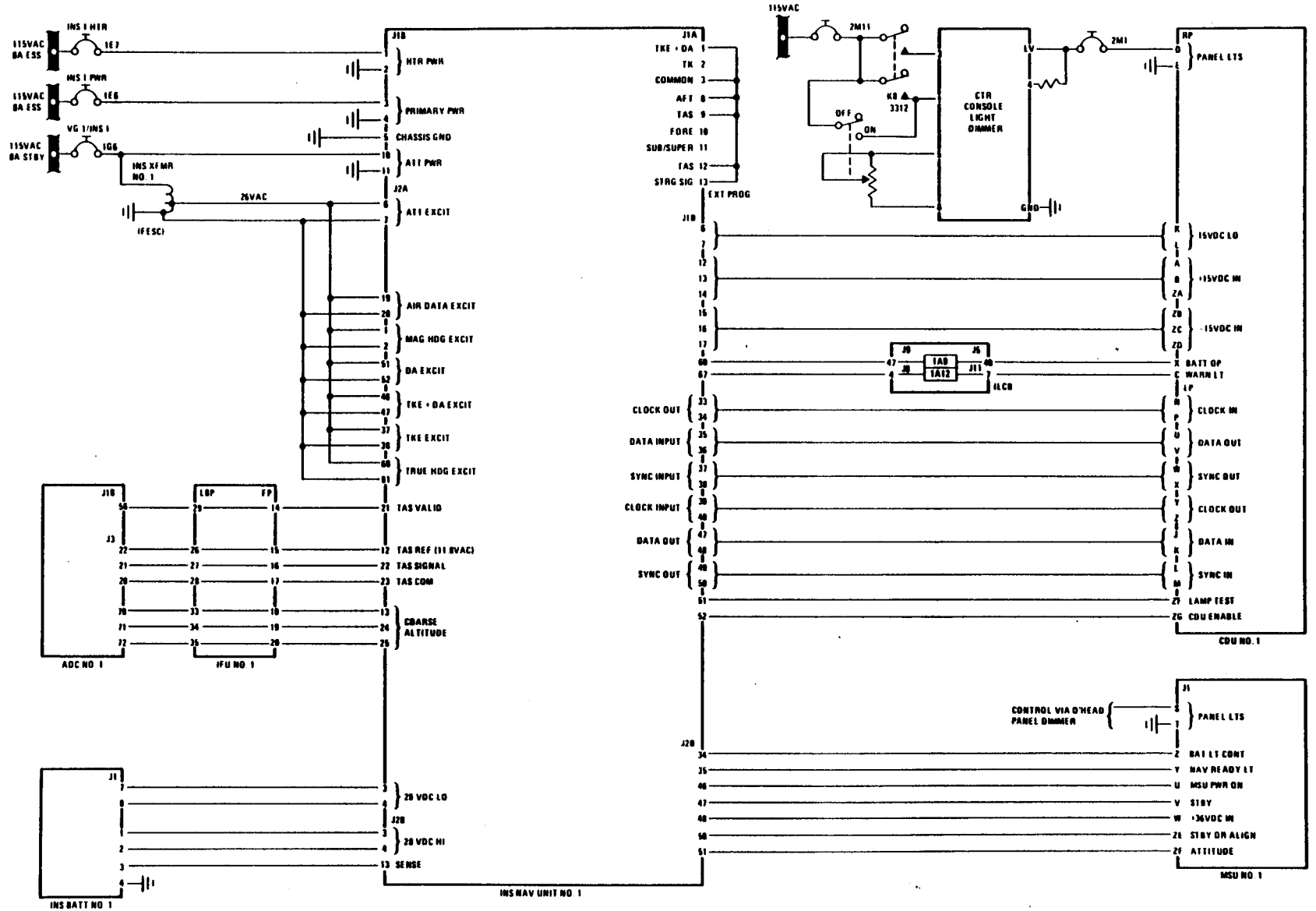
L1011-100
4-78

34-43-57TW



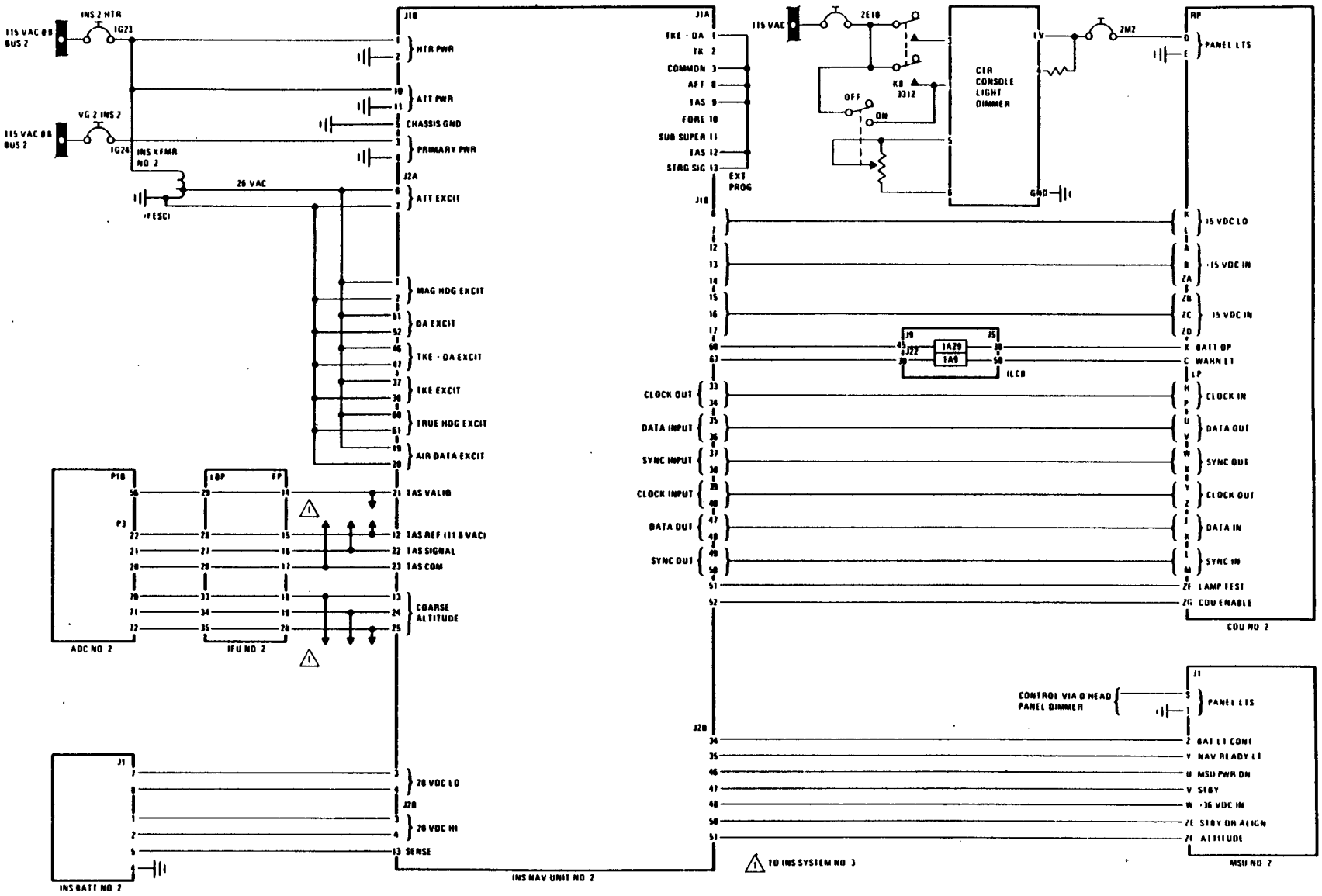
34-43-58TW

INERTIAL NAV SYSTEM NO. 3 INTERCONNECT AND INPUT POWER/SIGNALS



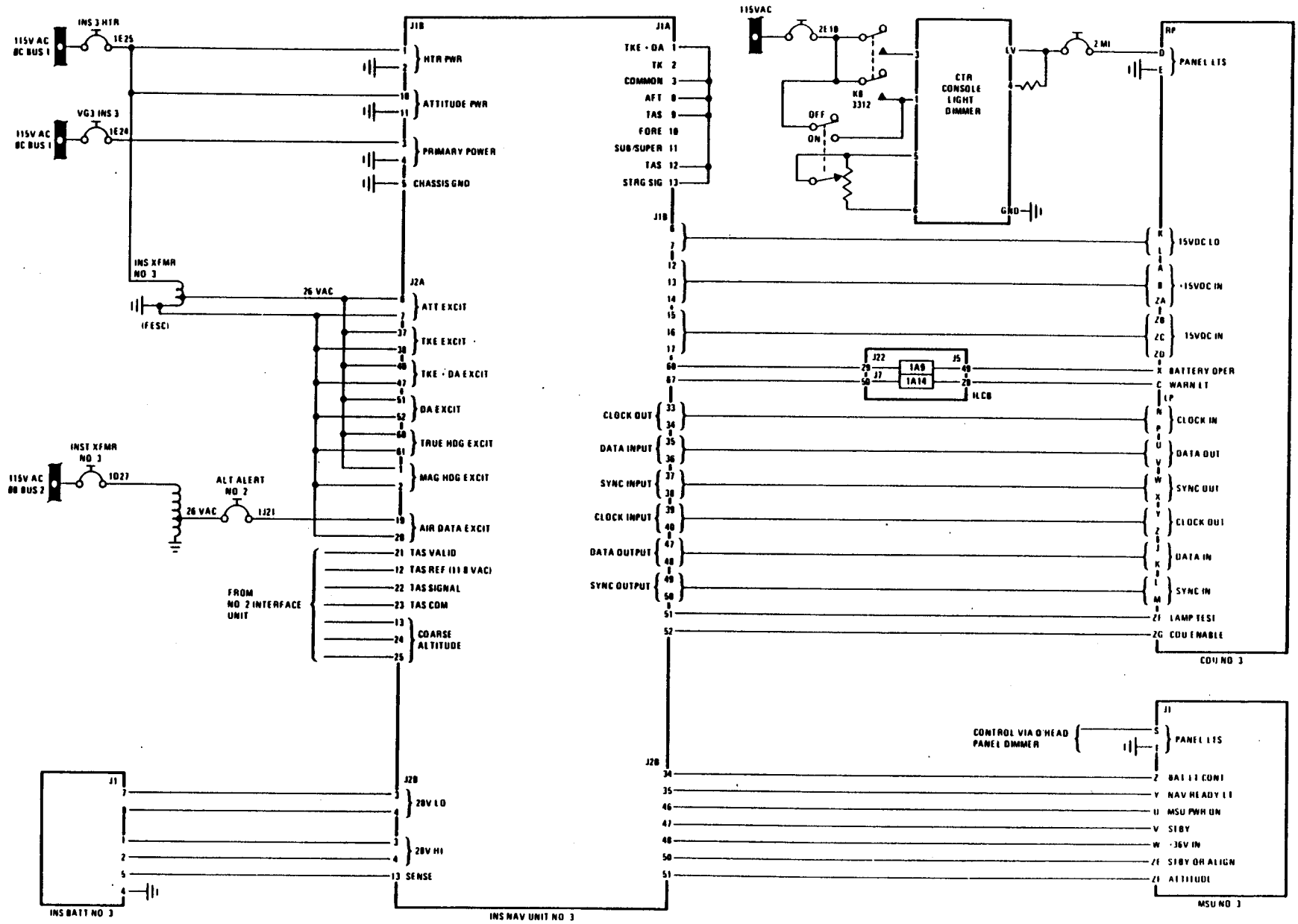
INS NO. 1 INTERCONNECT AND INPUT POWER/SIGNALS

FOR TRAINING PURPOSES ONLY



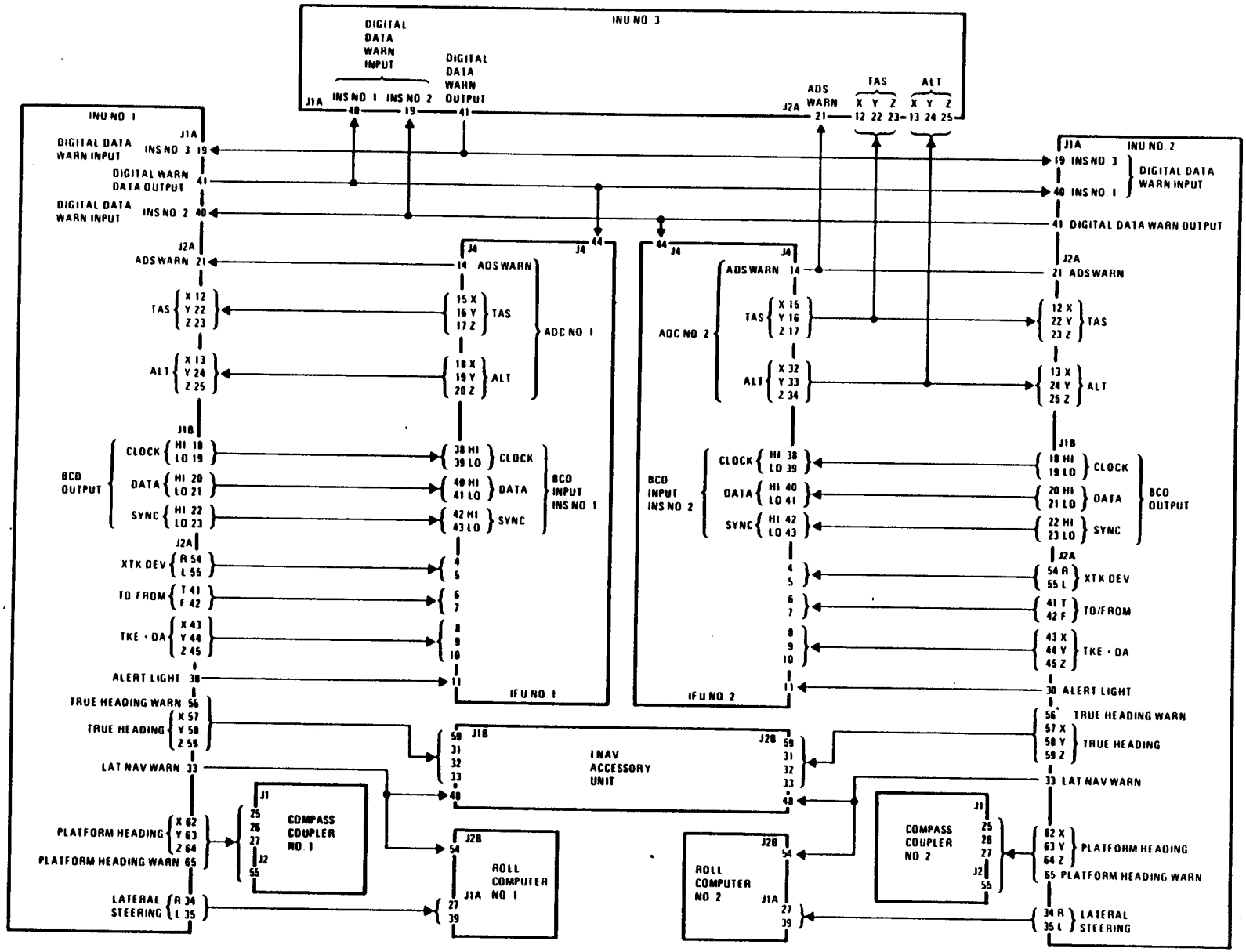
INS NO. 2 INTERCONNECT AND INPUT POWER/SIGNALS

FOR TRAINING PURPOSES ONLY



INS NO. 3 INTERCONNECT AND INPUT POWER/SIGNALS

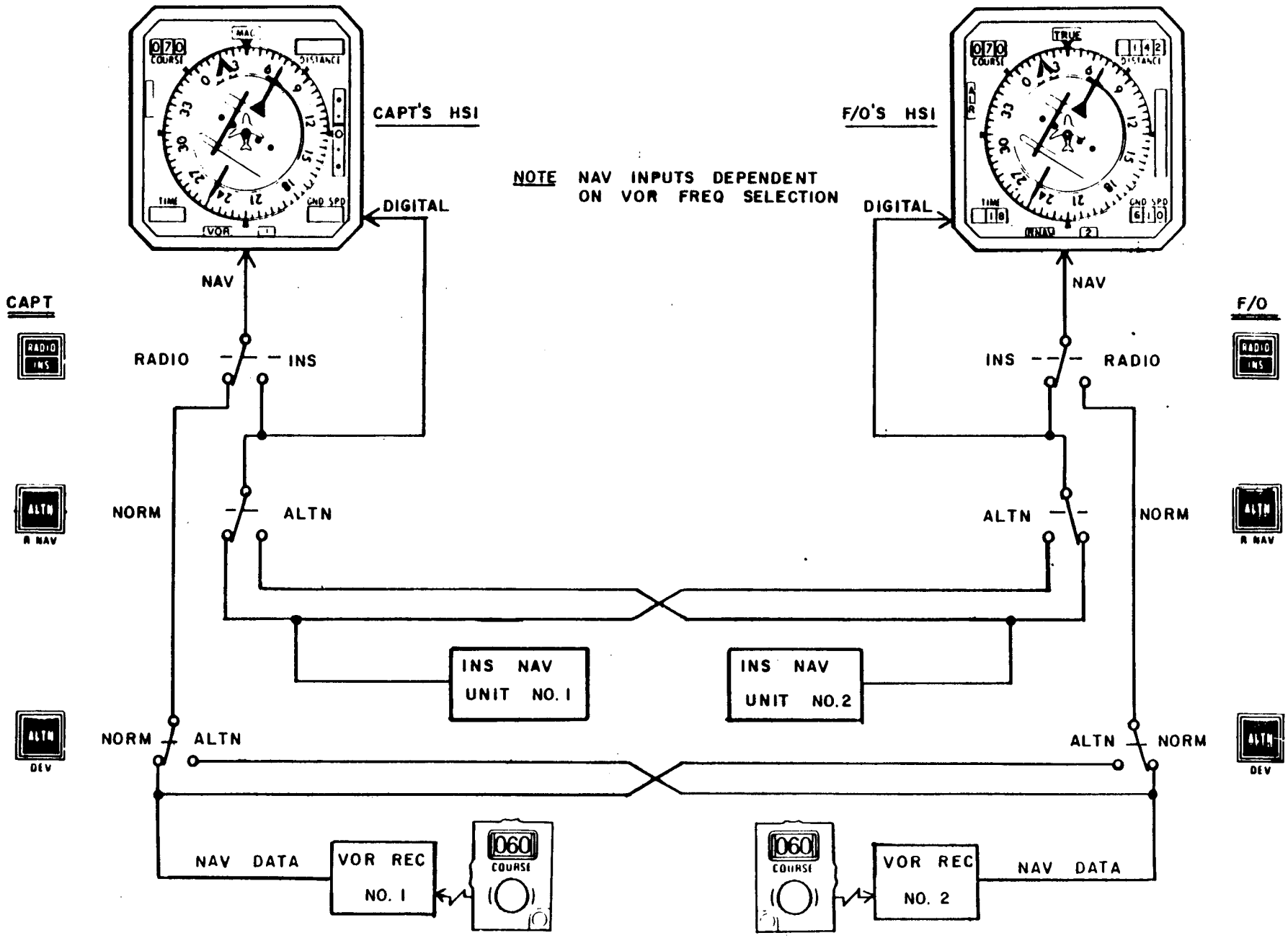
FOR TRAINING PURPOSES ONLY



T34-43-0000-956

INS DATA INTERFACE

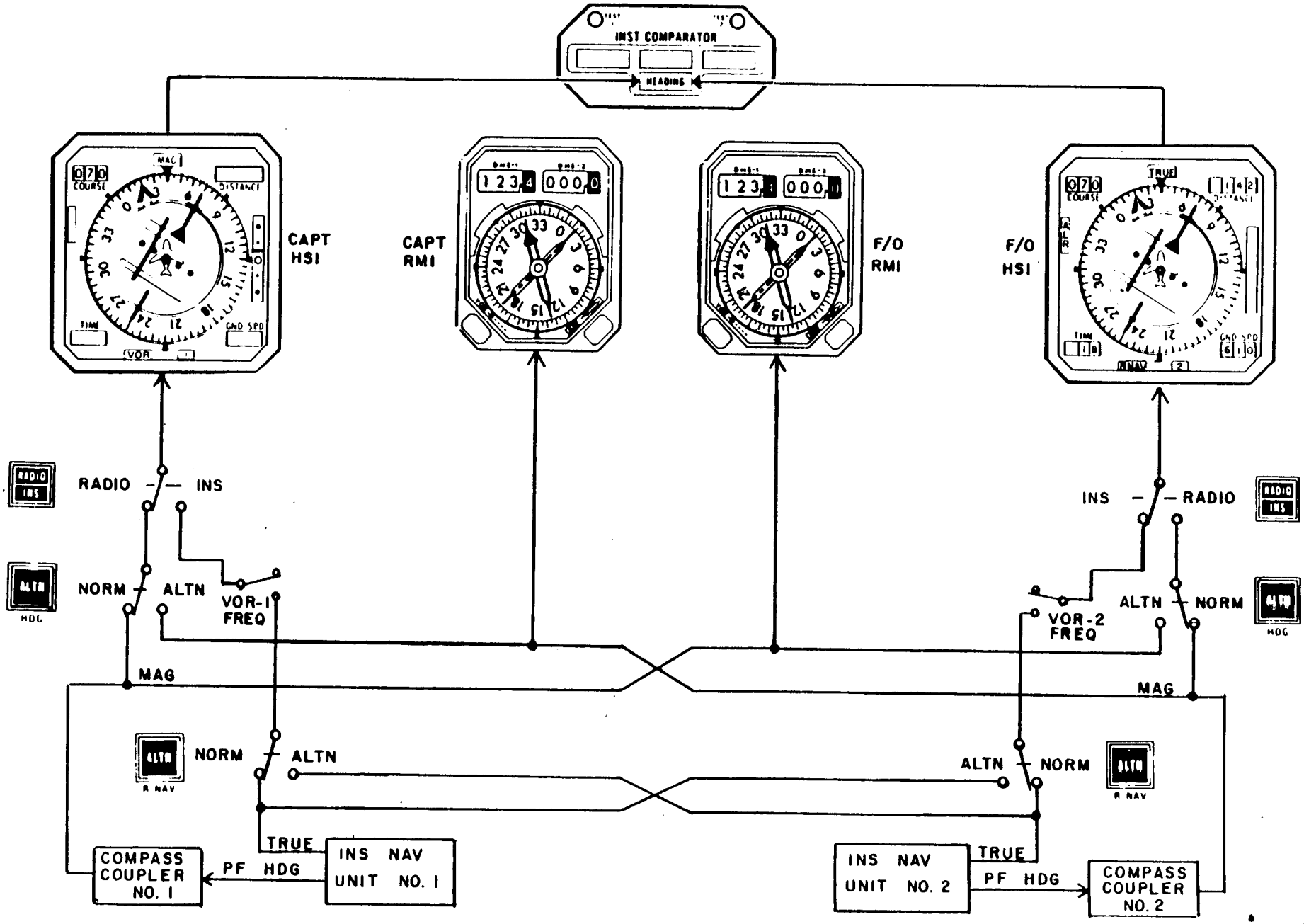
FOR TRAINING PURPOSES ONLY



T34-43-06 TW

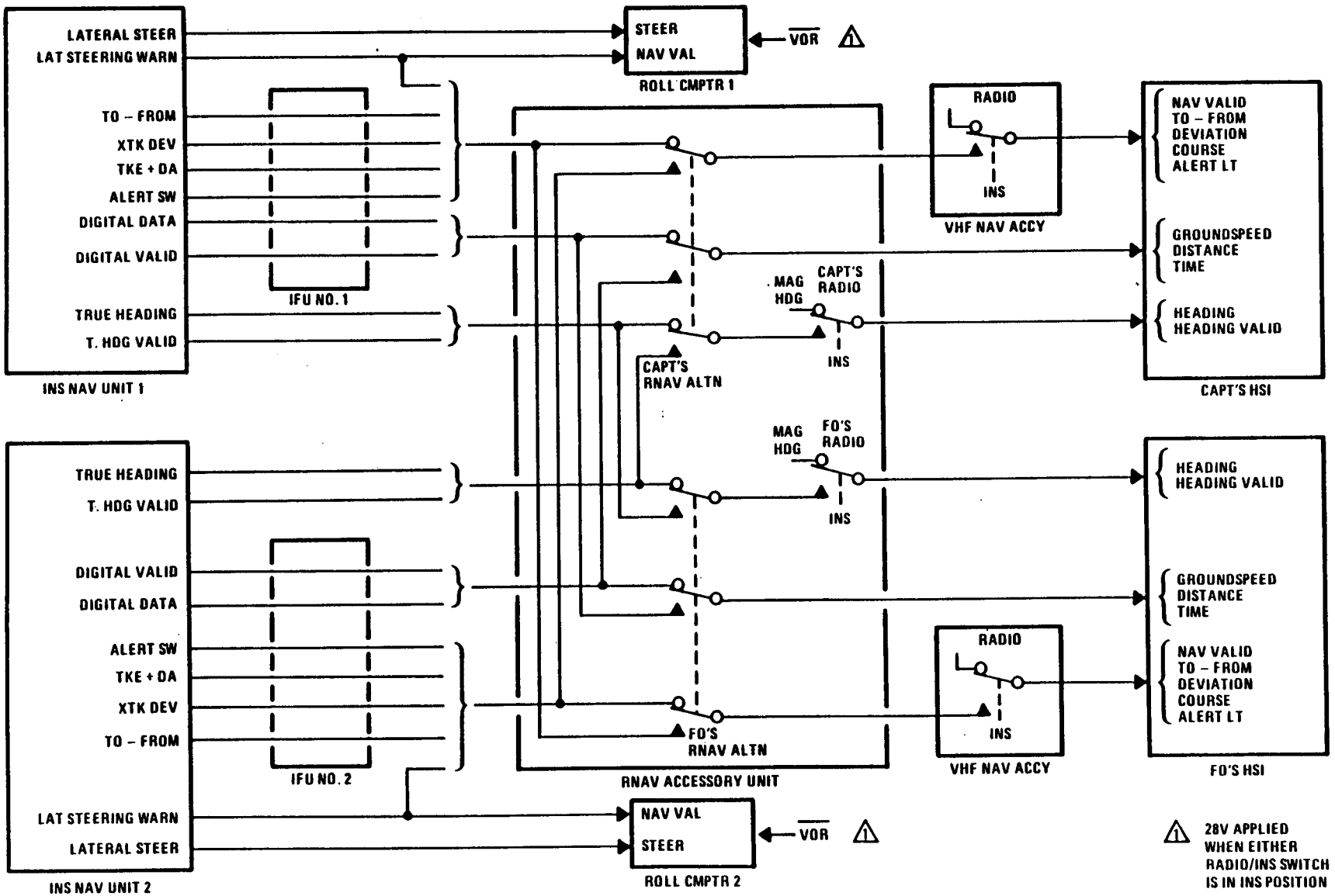
INS/RADIO OPERATION SIGNAL FLOW

L1011-100
5-78



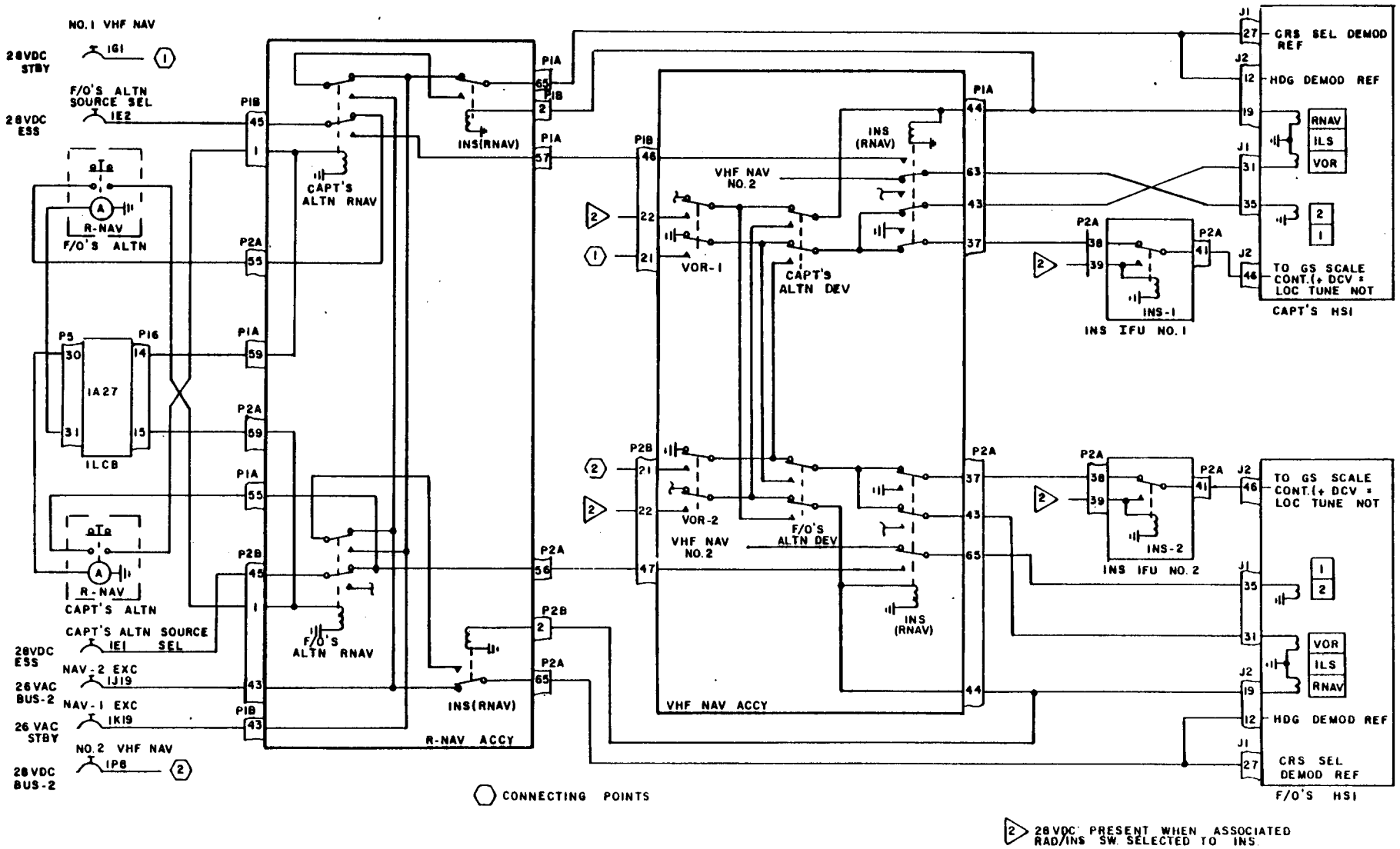
T34-43-07TW

INS/COMPASS OPERATION SIGNAL FLOW



INS DATA SWITCHING

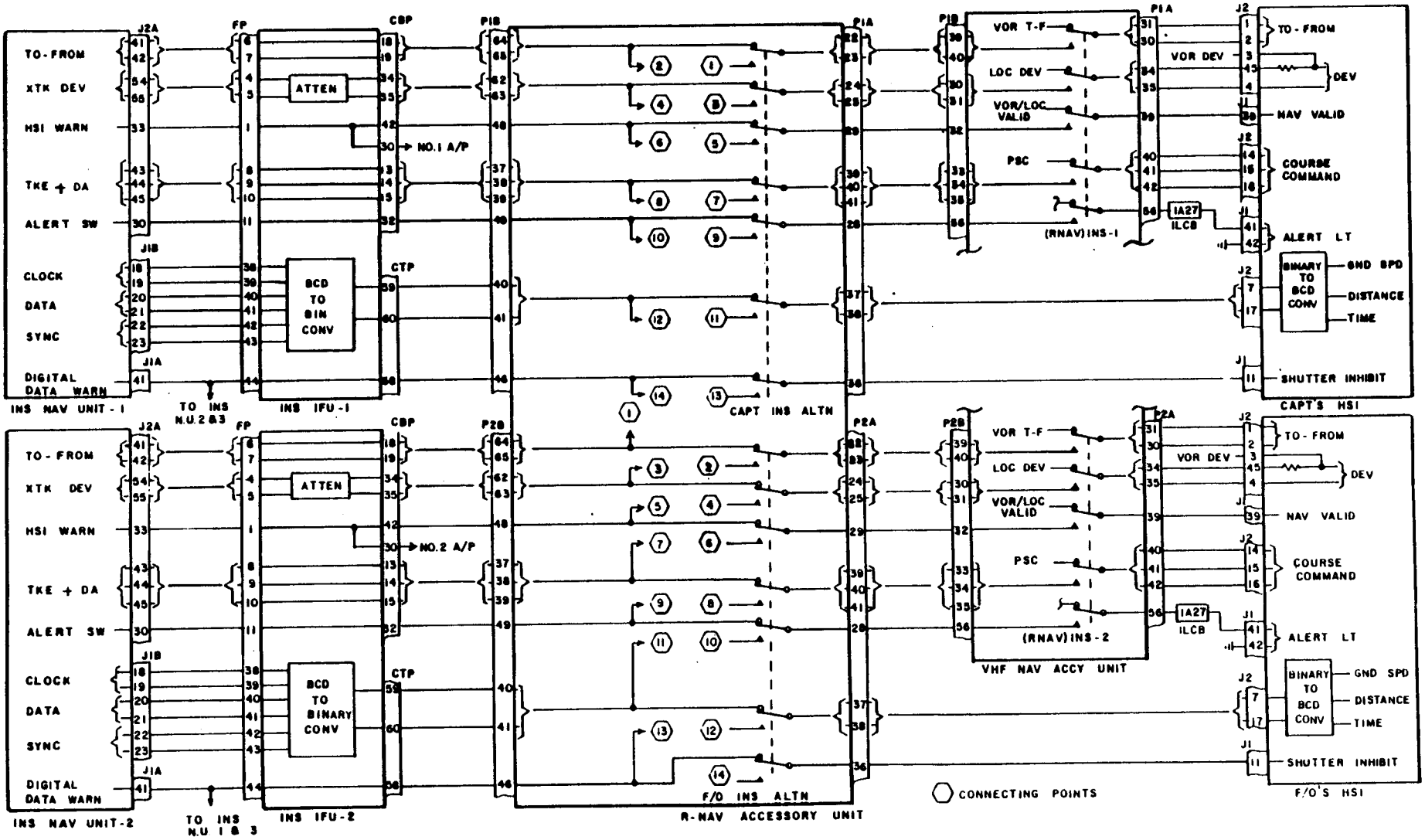
FOR TRAINING PURPOSES ONLY



34-43-51TW

INS SOURCE SELECT AND NAV ANNUNCIATION SCHEMATIC

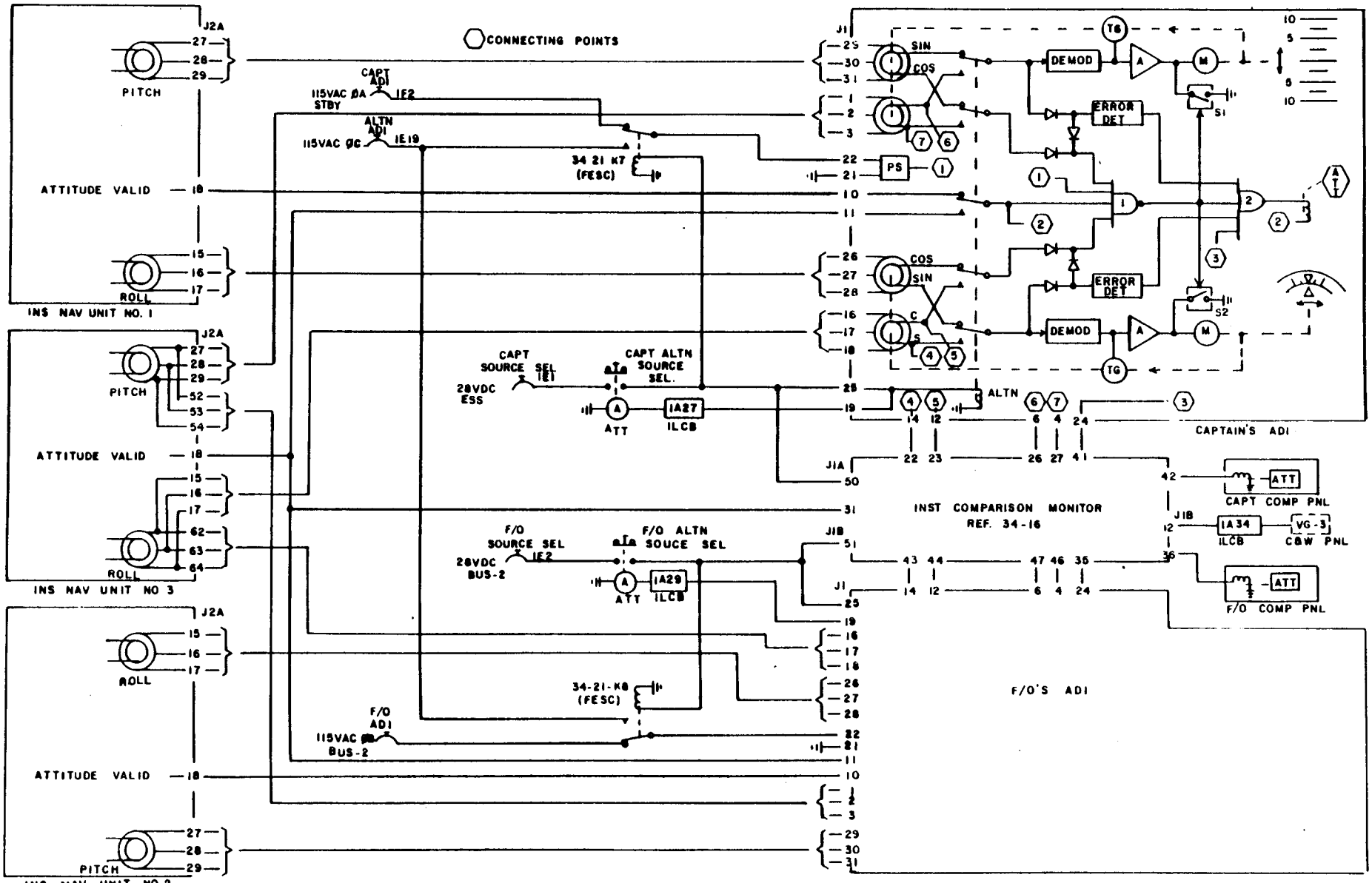
L1011-100
4-78



34-43-52TW

INS NAV DATA SCHEMATIC

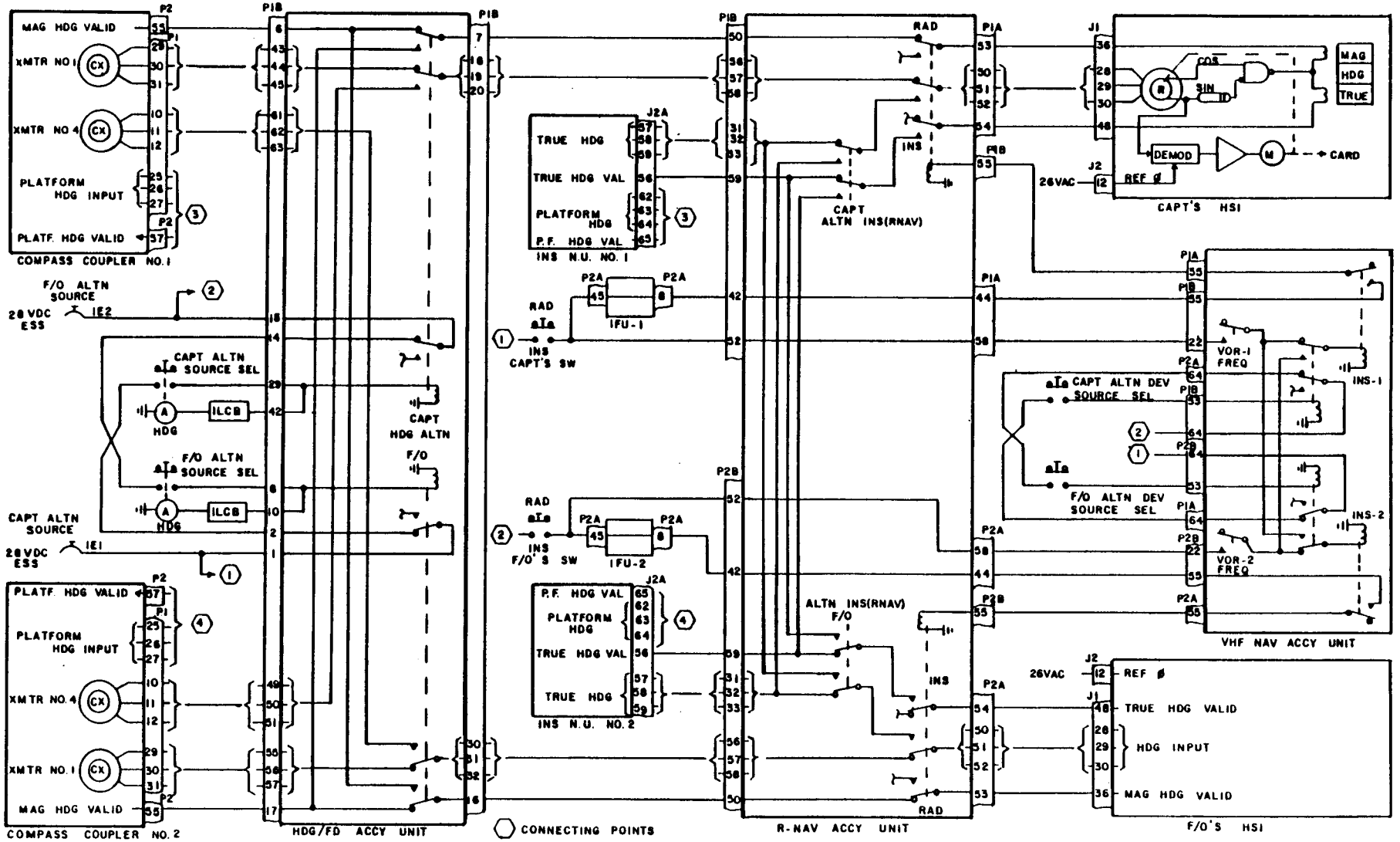
L1011-100
1-78



34-43-53TW

ATTITUDE INDICATIONS SCHEM

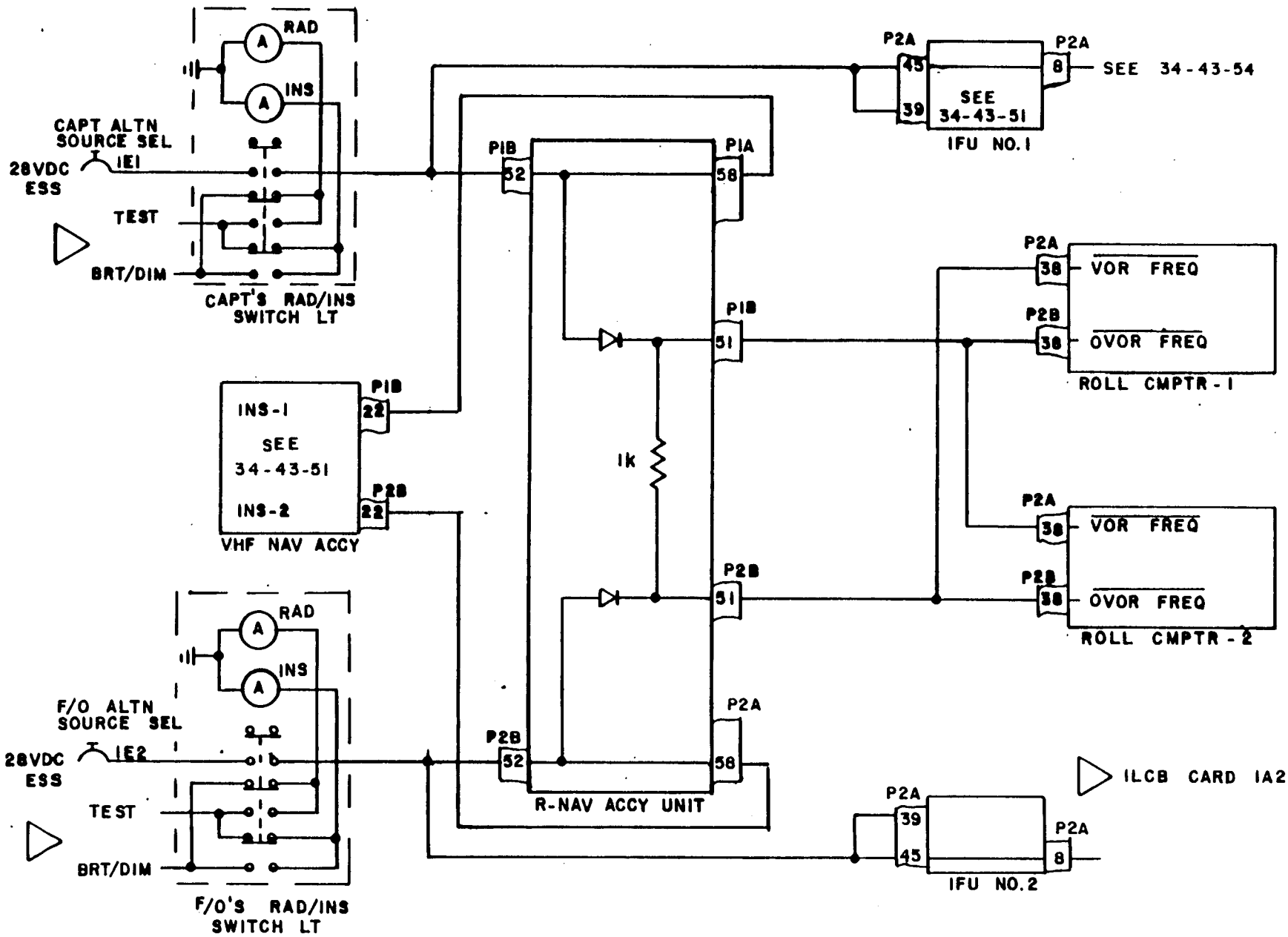
L1011-100
1-78



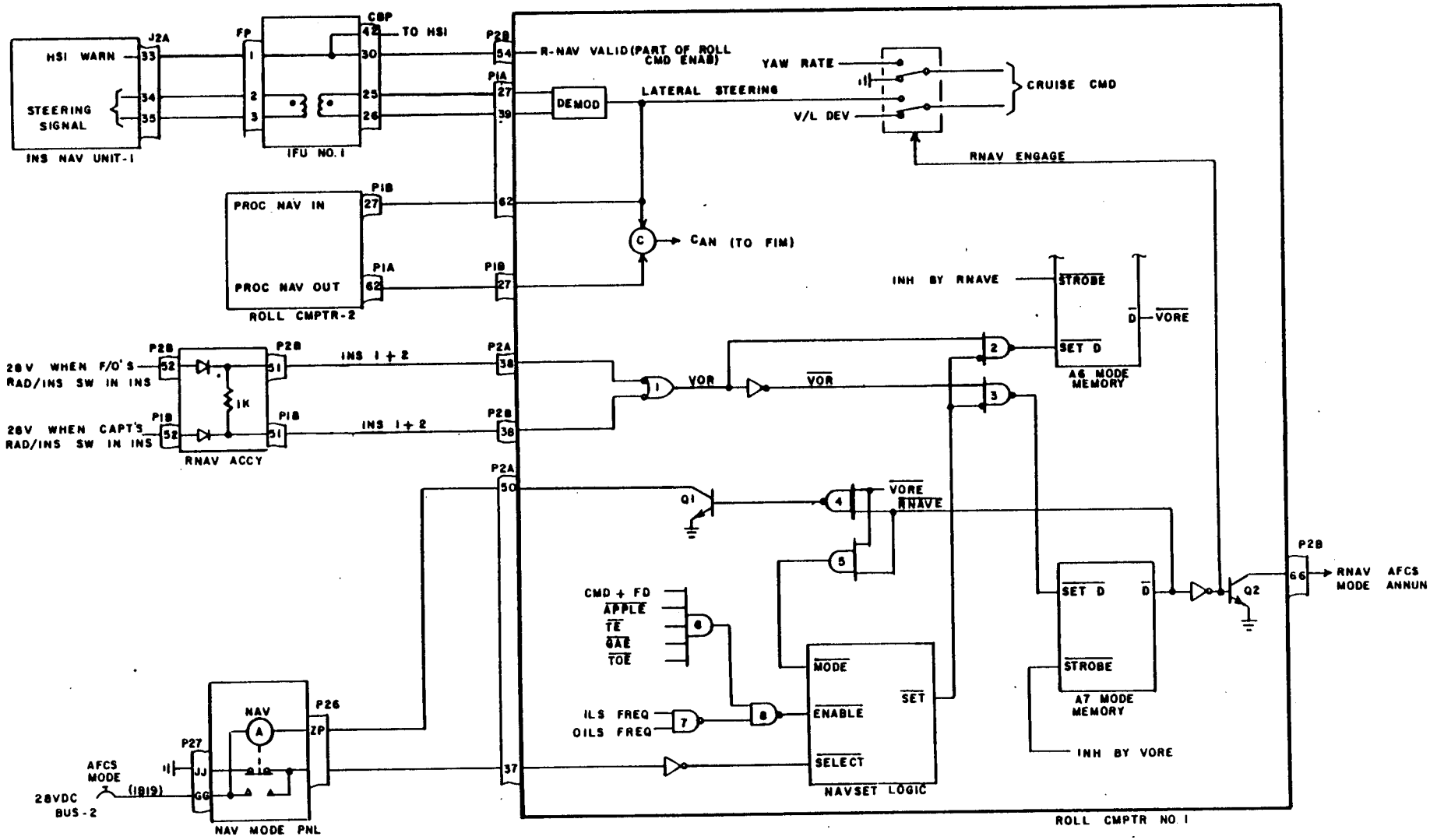
34-43-54TW

INS/HEADING INTERFACE SCHEMATIC

L1011-100
5-78



34-43-50 TW RAD/INS SWITCHING INTERFACE DIAGRAM

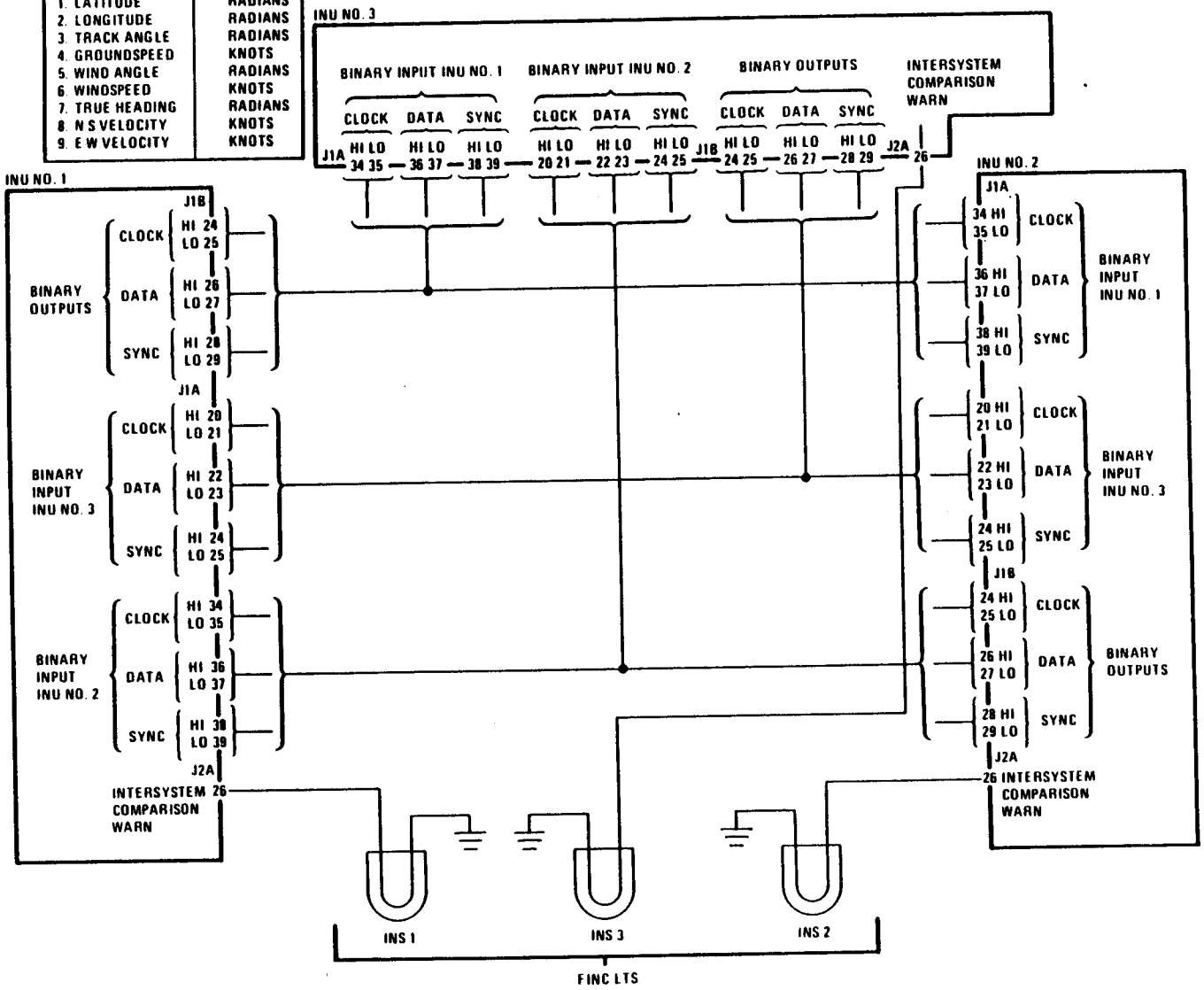


T34-43-55TW

(INS/AFCS) LATERAL STEERING FUNCTIONAL SCHEMATIC

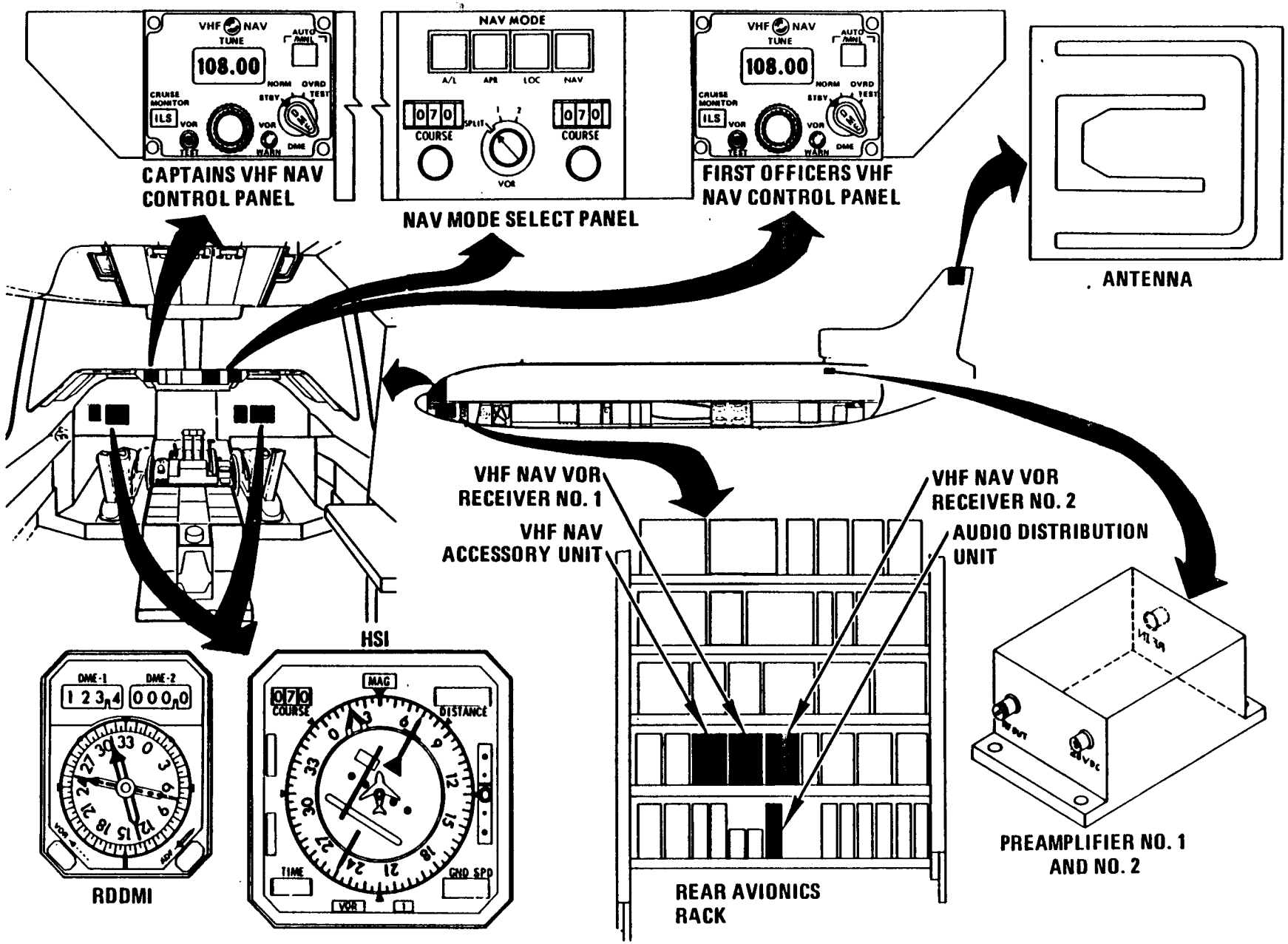
L1011-100
5-78

BINARY OUTPUTS OF THE INUs	
ITEM	UNITS
1. LATITUDE	RADIANS
2. LONGITUDE	RADIANS
3. TRACK ANGLE	RADIANS
4. GROUNDSPEED	KNOTS
5. WIND ANGLE	RADIANS
6. WINDSPEED	KNOTS
7. TRUE HEADING	RADIANS
8. N S VELOCITY	KNOTS
9. E W VELOCITY	KNOTS



INTERSYSTEM DATA BUS

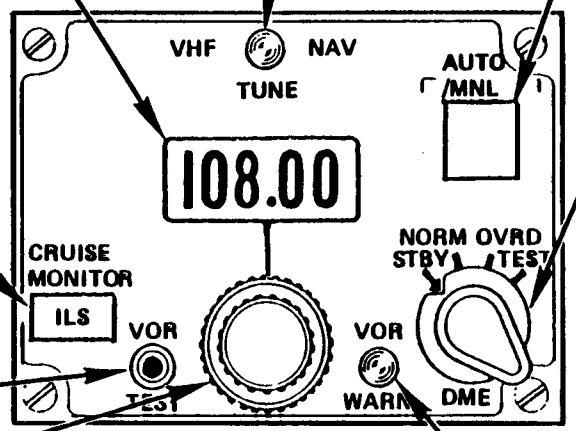
FOR TRAINING PURPOSES ONLY



T-34-55-0003-040

VHF NAVIGATION (VOR) SYSTEM COMPONENT LOCATION

L-1011
1/73



VOR/LOC FREQUENCY DISPLAY

VOR FREQUENCIES:

108.00 – 112.00 MHz
IN EVEN TENTHS

112.00 – 117.95 MHz
IN ALL TENTHS

LOC FREQUENCIES:

108.10 – 111.95 MHz
IN ODD TENTHS

TUNE LIGHT
(NOT CONNECTED)

AUTO/MANUAL SWITCH
(NOT CONNECTED)

DME CONTROL

STBY – RECEIVER IS OPERATING BUT TRANSMITTER IS INHIBITED. 4 DASHES IN DME DISPLAY WINDOW

NORM – 200 NM SEARCH

OVRD – 390 NM SEARCH

TEST – (SPRING-LOADED) COMPLETE DME SELF-TEST

CRUISE MONITOR INDICATOR

LIGHTS TO ANNUNCIATE FAILURE OF ILS DURING CRUISE

VOR TEST PUSHBUTTON

VOR/LOC FREQUENCY SELECTOR KNOBS

WHEN A VOR OR LOC FREQUENCY IS SELECTED, THE CORRESPONDING DME IS ALSO SELECTED

WHEN A LOC FREQUENCY IS SELECTED, THE CORRESPONDING GLIDE SLOPE IS ALSO SELECTED

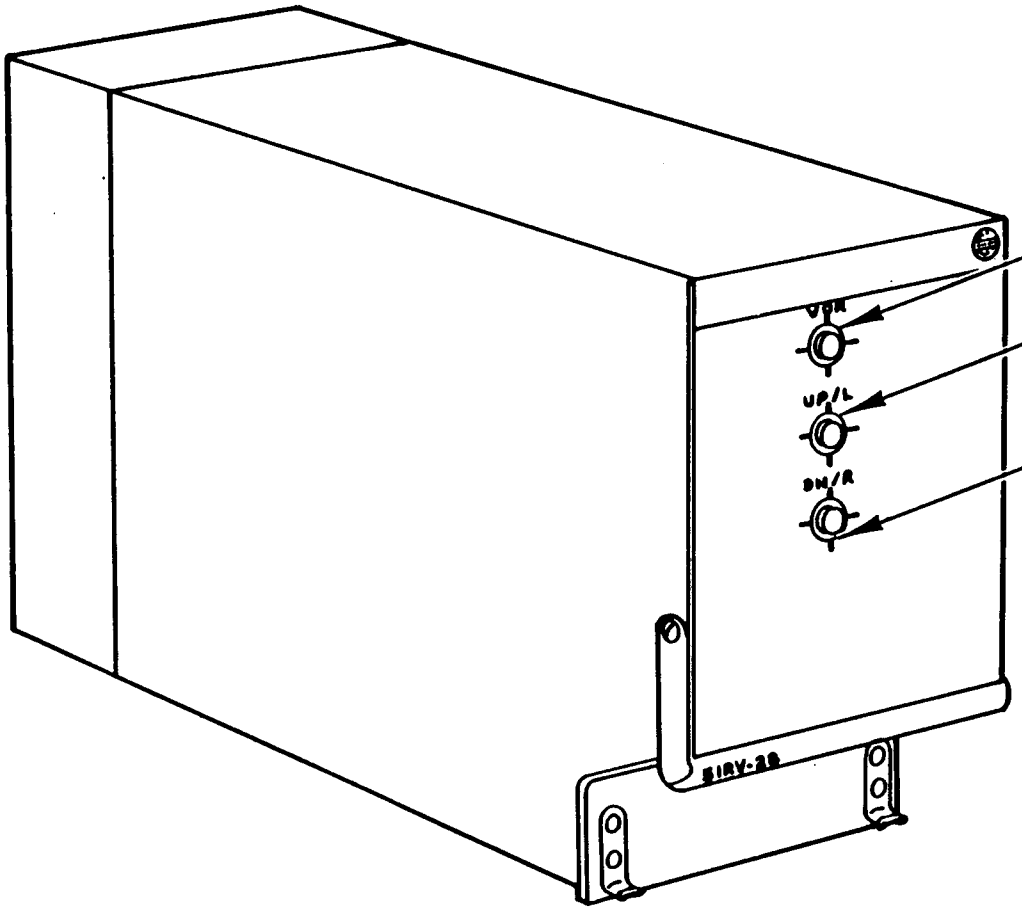
VOR WARN ANNUNCIATOR

ILLUMINATES TO INDICATE VOR TEST PUSHBUTTON DEPRESSED

T-34-55-0003-048

VHF NAV CONTROL PANEL

L-1011
1/73



VOR SELF TEST SWITCH

ILS UP/LEFT SELF TEST SWITCH

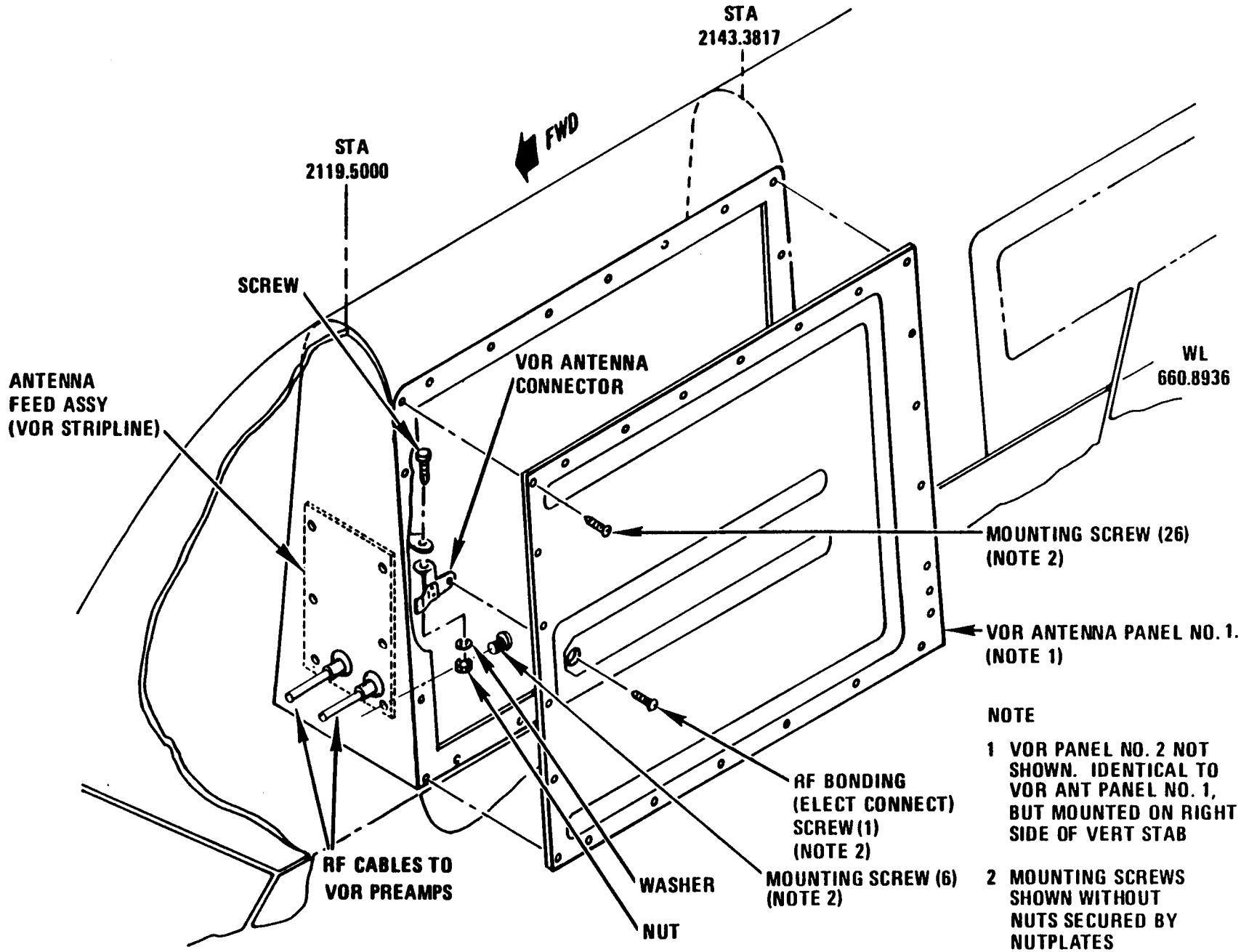
- NOT USED IN L-1011

ILS DOWN/RIGHT SELF TEST SWITCH

- NOT USED IN L-1011

T-34-55-0001-081

VOR RECEIVER



NOTE

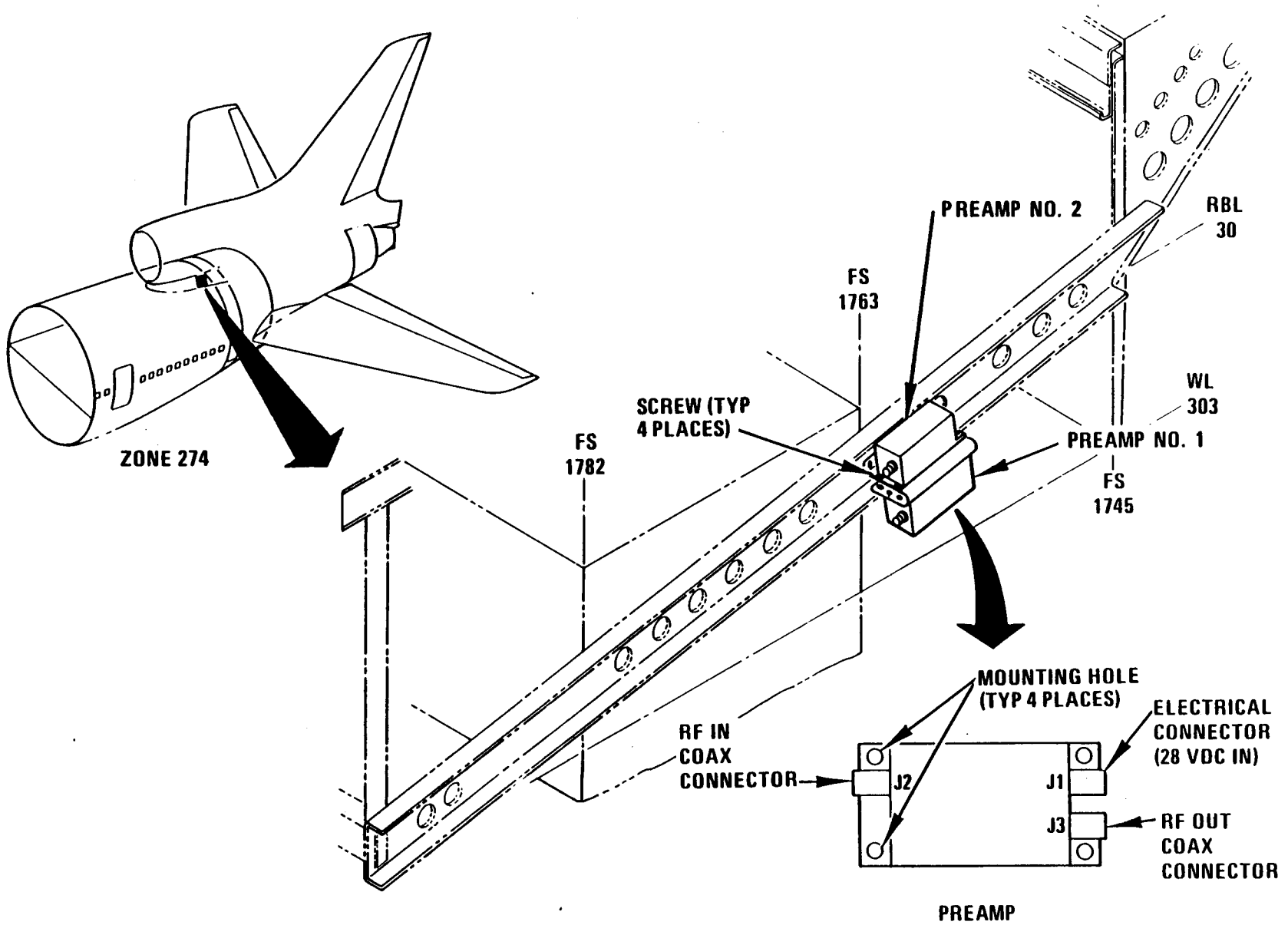
1 VOR PANEL NO. 2 NOT SHOWN. IDENTICAL TO VOR ANT PANEL NO. 1, BUT MOUNTED ON RIGHT SIDE OF VERT STAB

2 MOUNTING SCREWS SHOWN WITHOUT NUTS SECURED BY NUTPLATES

T-34-55-0001-064

DUAL VOR ANTENNA REMOVAL AND INSTALLATION

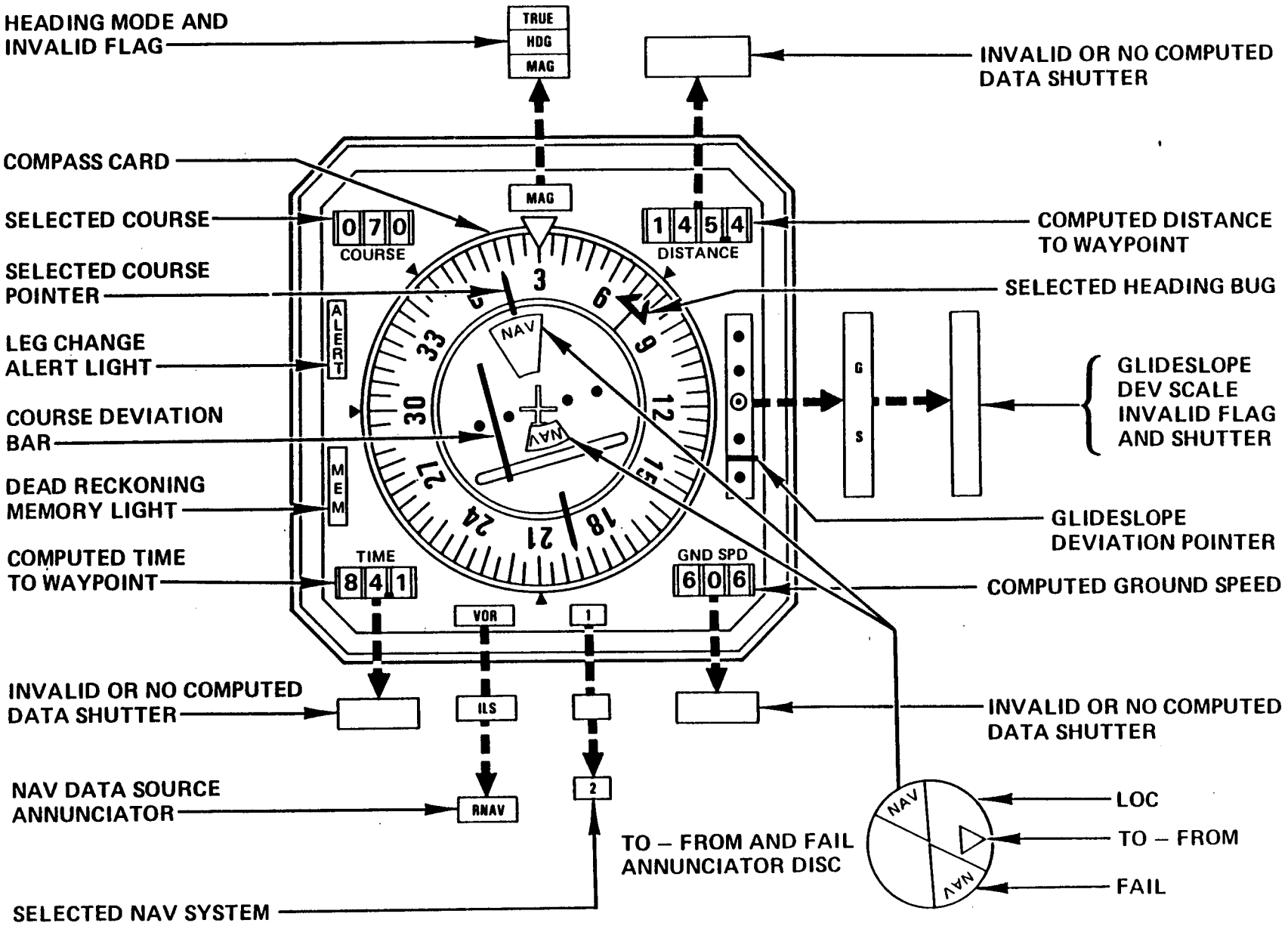
L-1011
10/72



VOR PREAMPLIFIERS, REMOVAL AND INSTALLATION

T-34-55-0002-045

L-1011
4/74

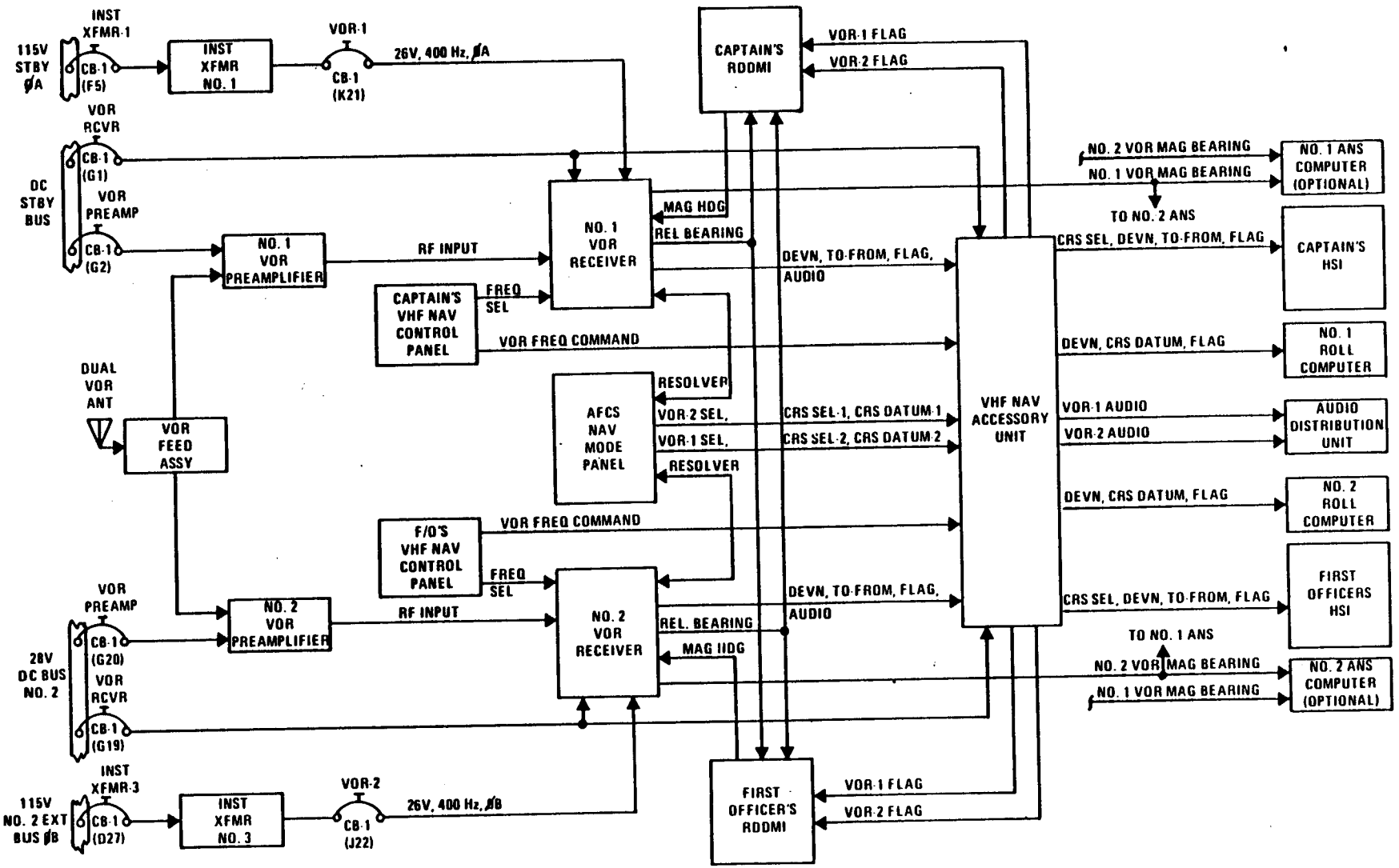


T-34-55-0003-019

HSI DISPLAYS AND FLAGS

FOR TRAINING PURPOSES ONLY

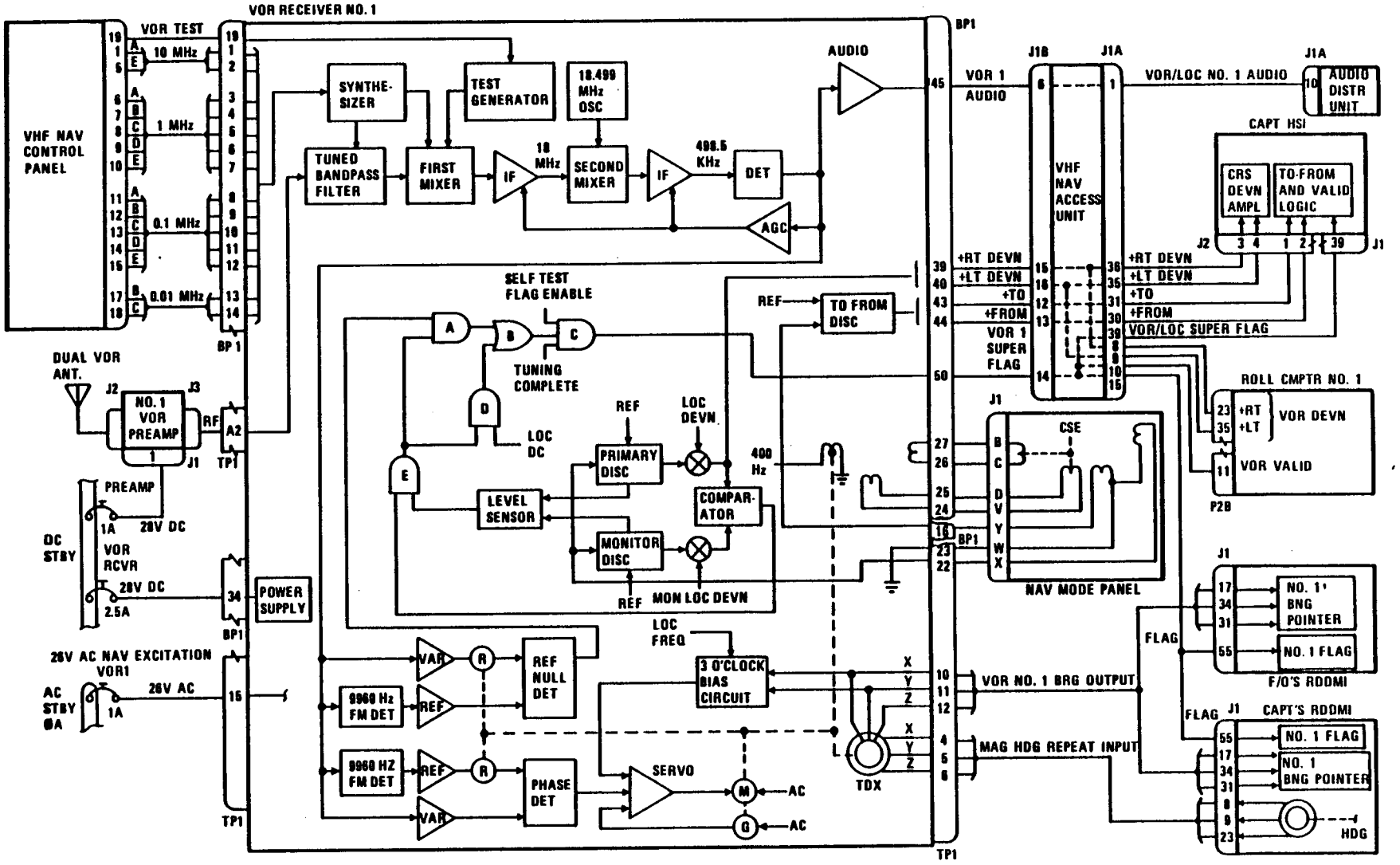
L-1011



VOR SYSTEM BLOCK DIAGRAM

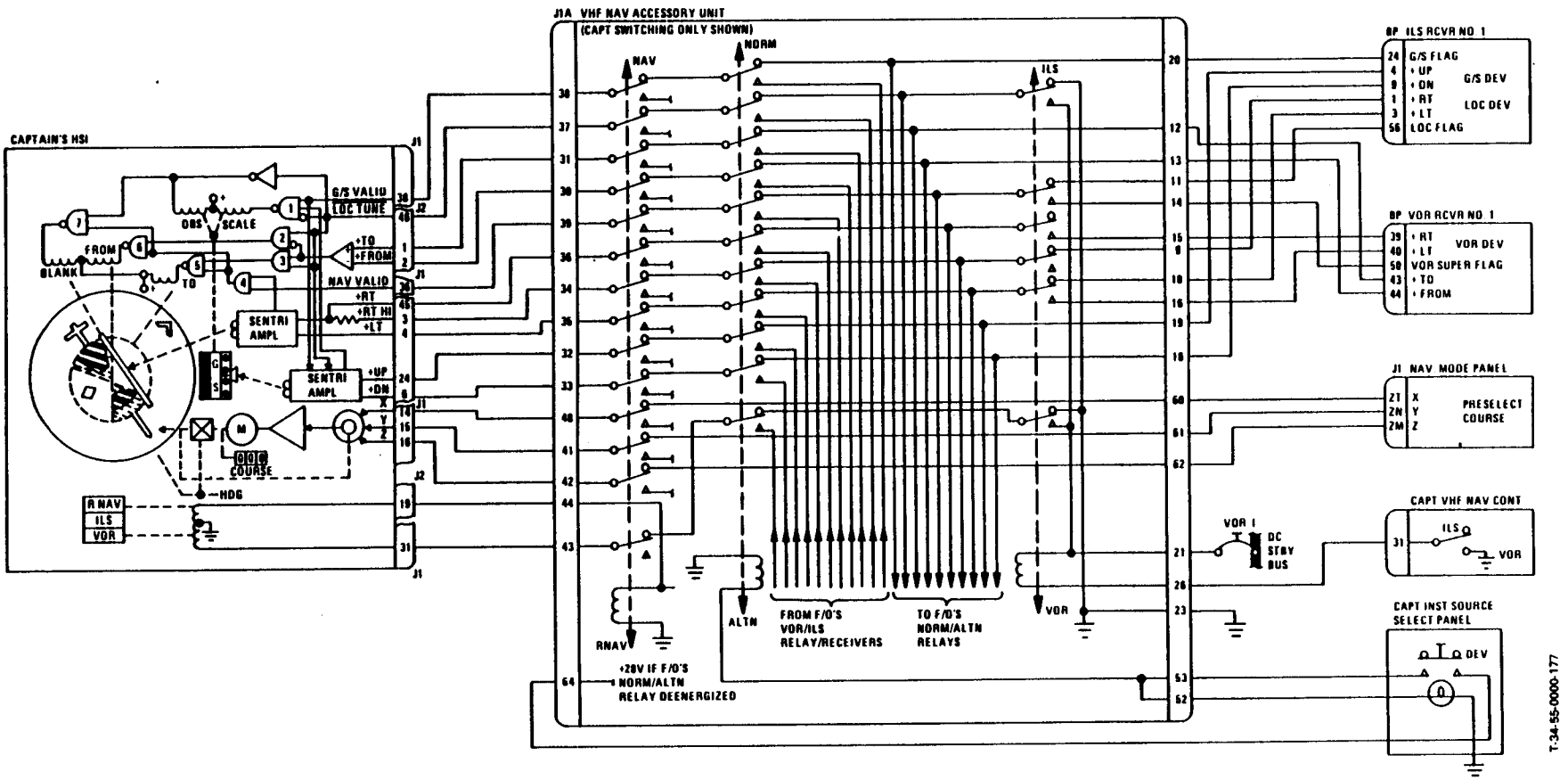
T-34-55-0002-036

L-1011
1/74



T-34-55-0004-096

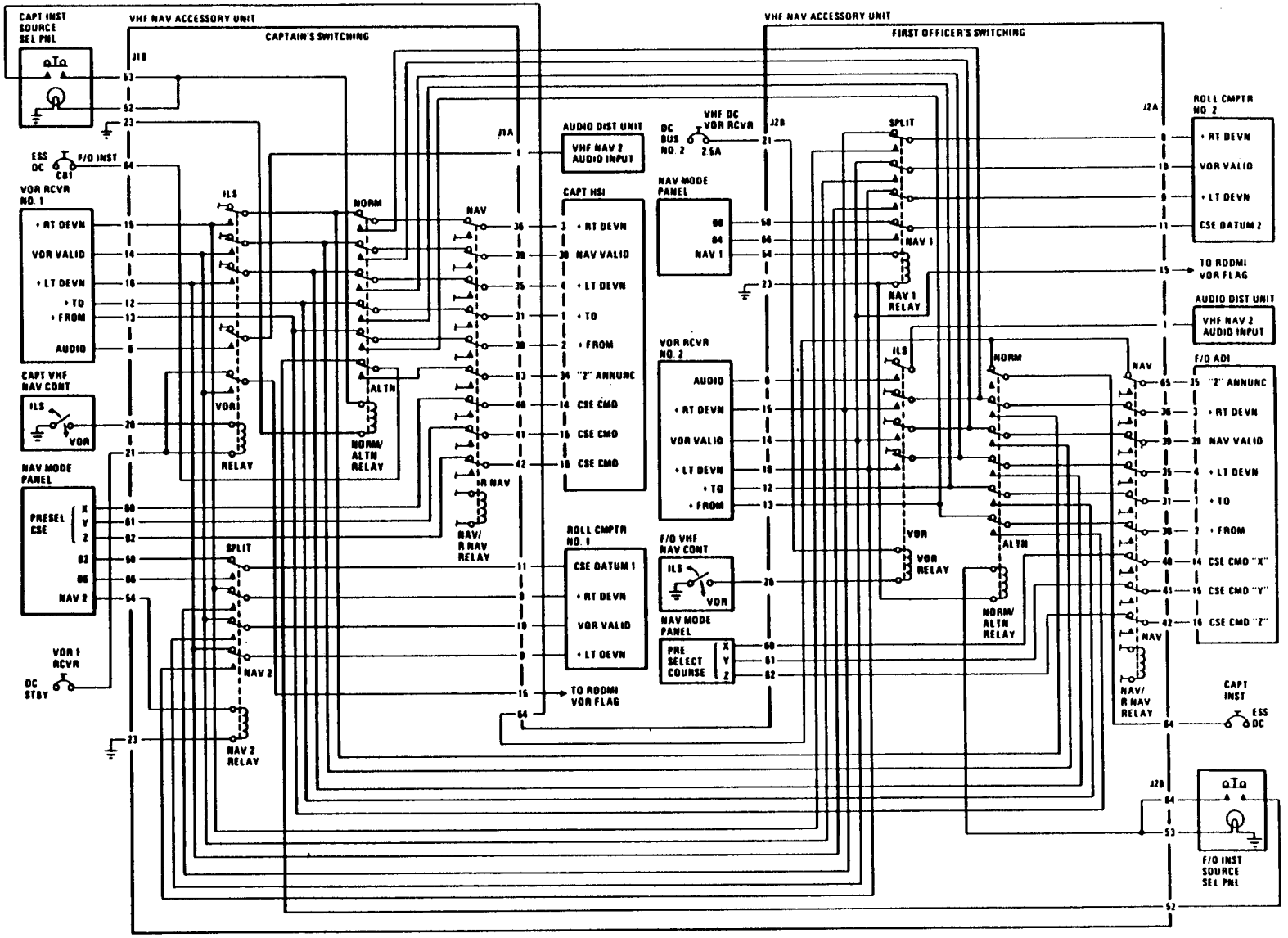
VOR SYSTEM FUNCTIONAL DIAGRAM



T-34-55-0000-177

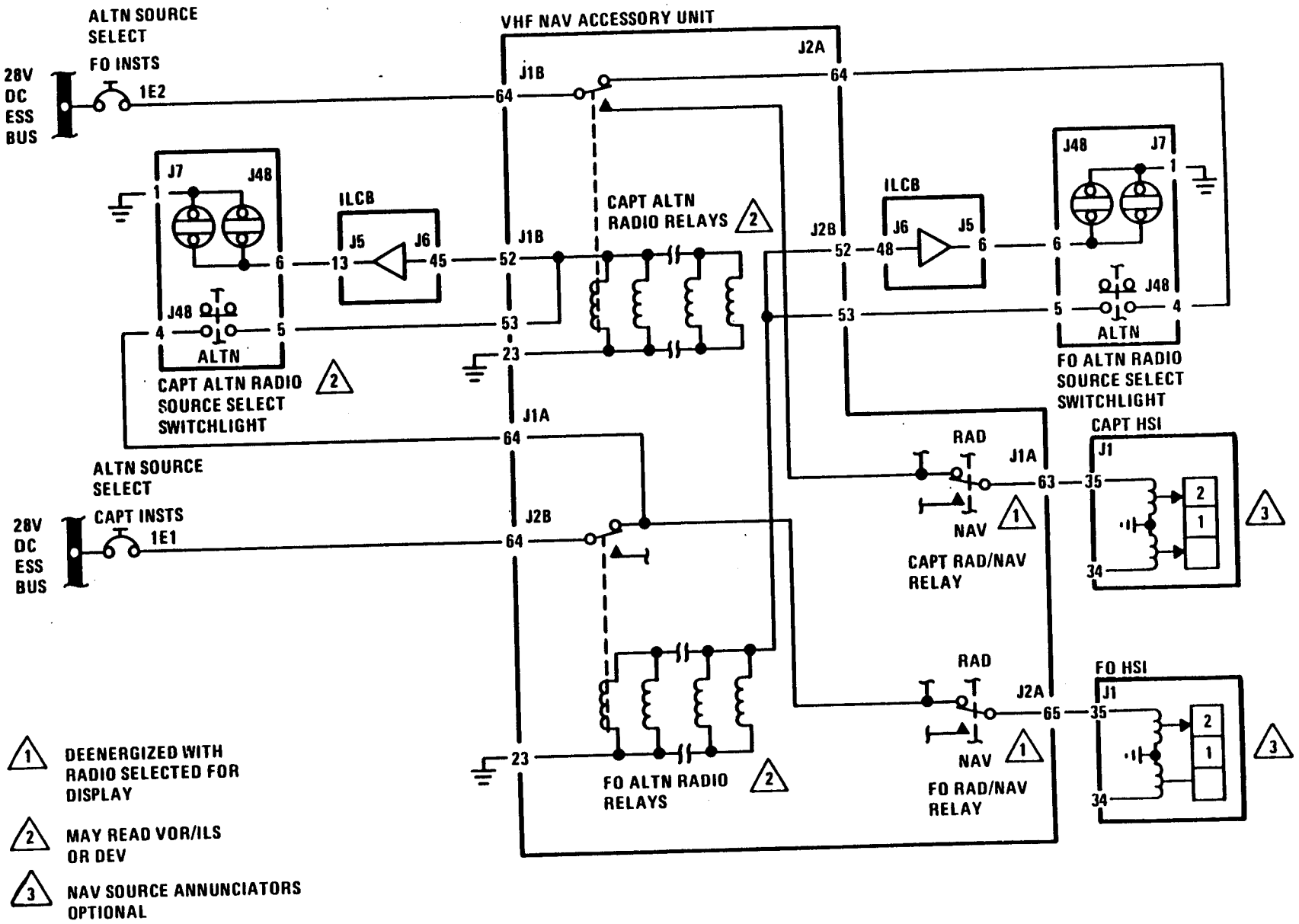
VHF NAV ACCESSORY UNIT FUNCTIONAL DIAGRAM (HSI OPERATION)

L 1011
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T-34-55-0003-079

VHF NAV ACCESSORY UNIT FUNCTIONAL DIAGRAM (VOR OPERATION)

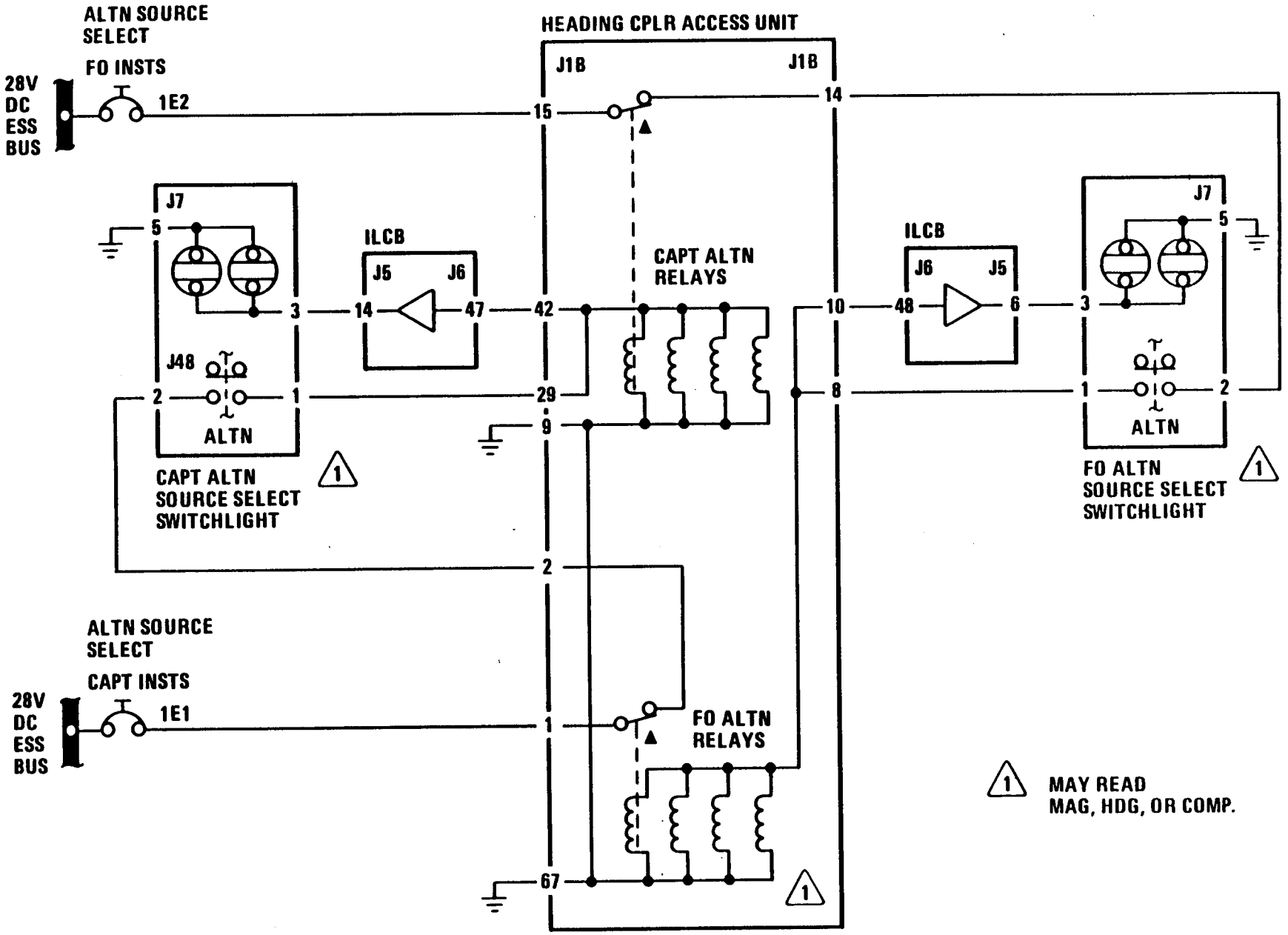


T-34-55-0001-344

ALTERNATE RADIO RELAYS CONTROL

FOR TRAINING PURPOSES ONLY

L-1011

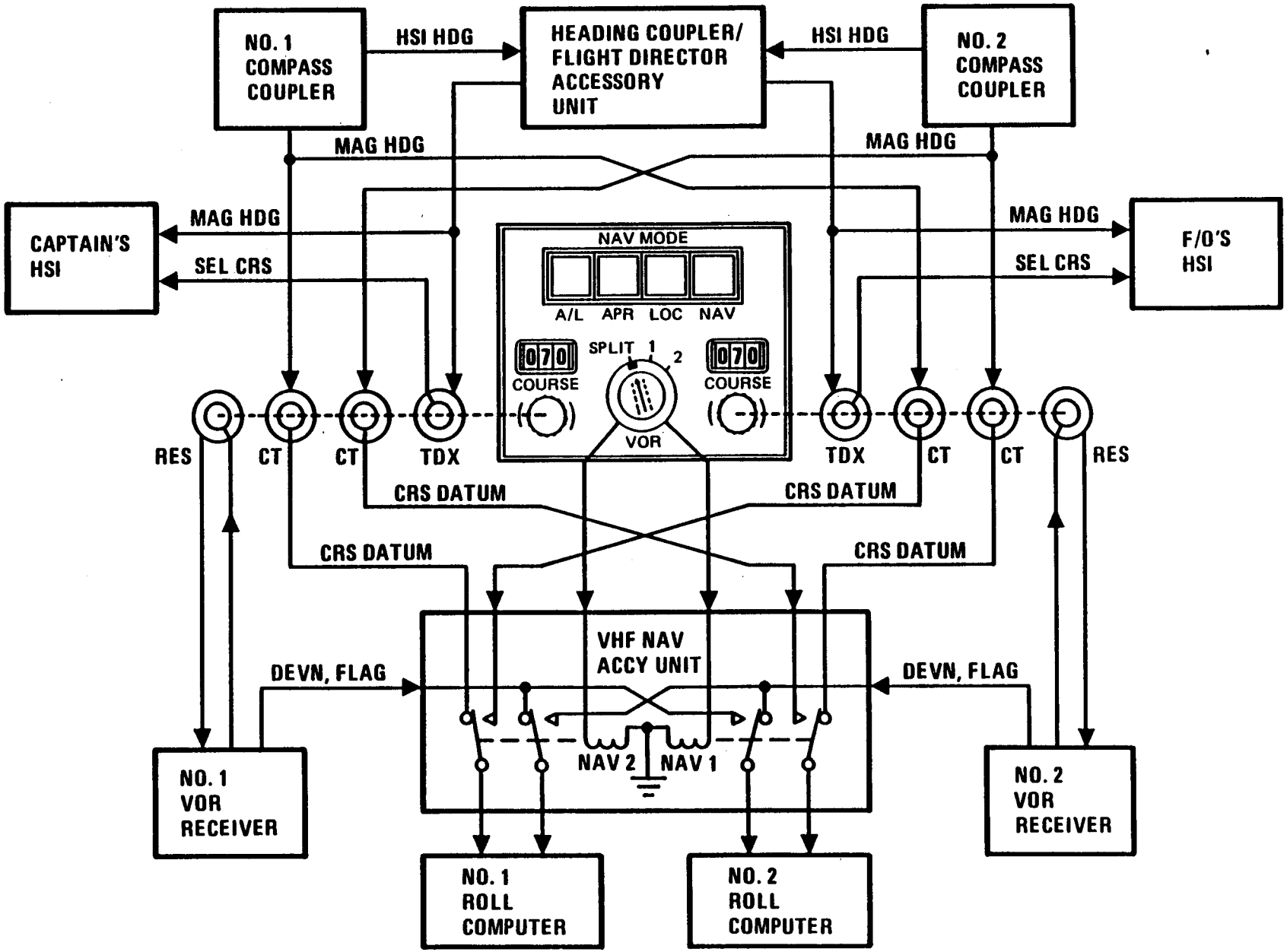


T-34-55-0000-378

ALTERNATE MAG RELAYS CONTROL

L-1011

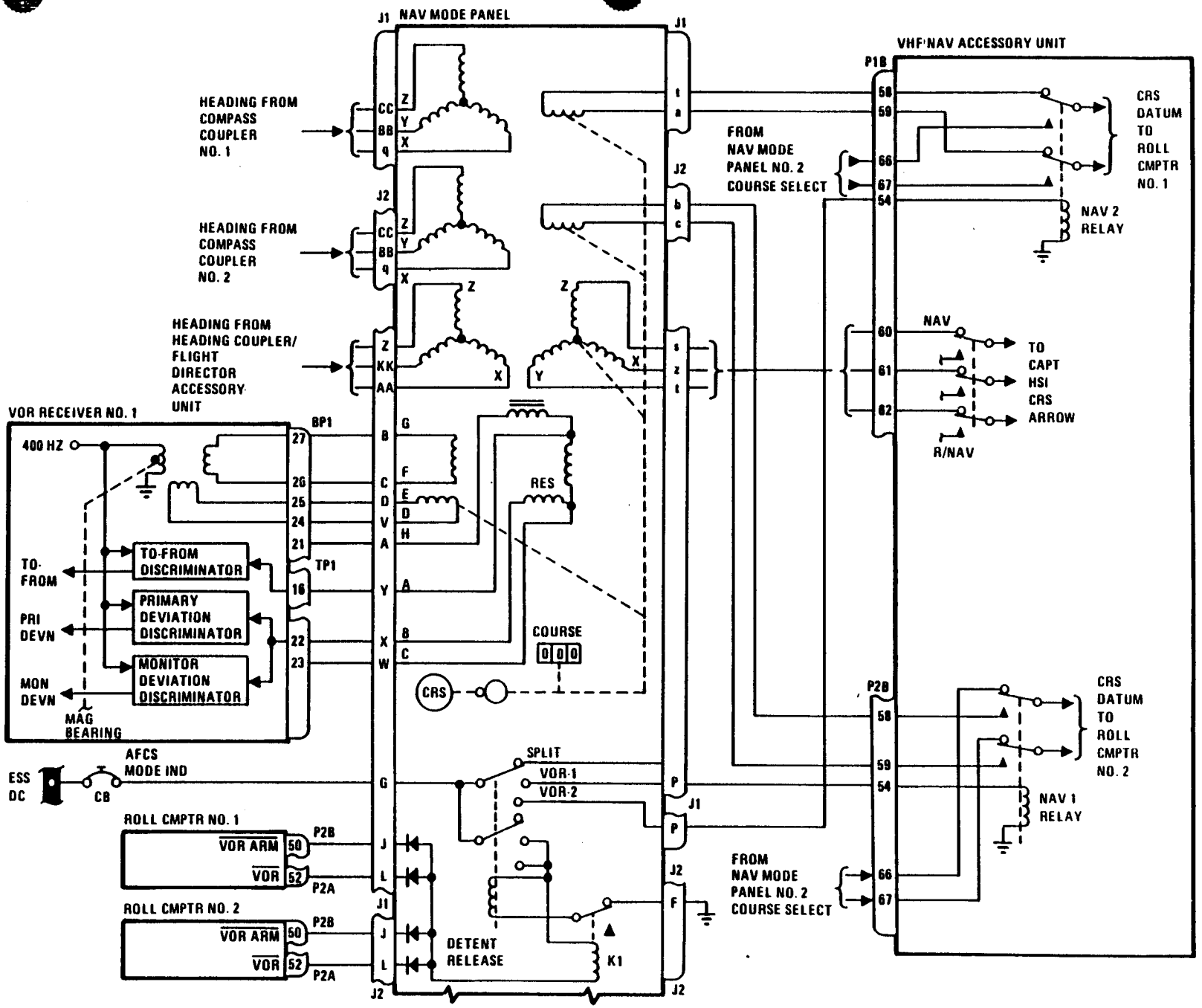
FOR TRAINING PURPOSES ONLY



T-34-55-0001-210

VOR-NAV MODE PANEL INTERCONNECT

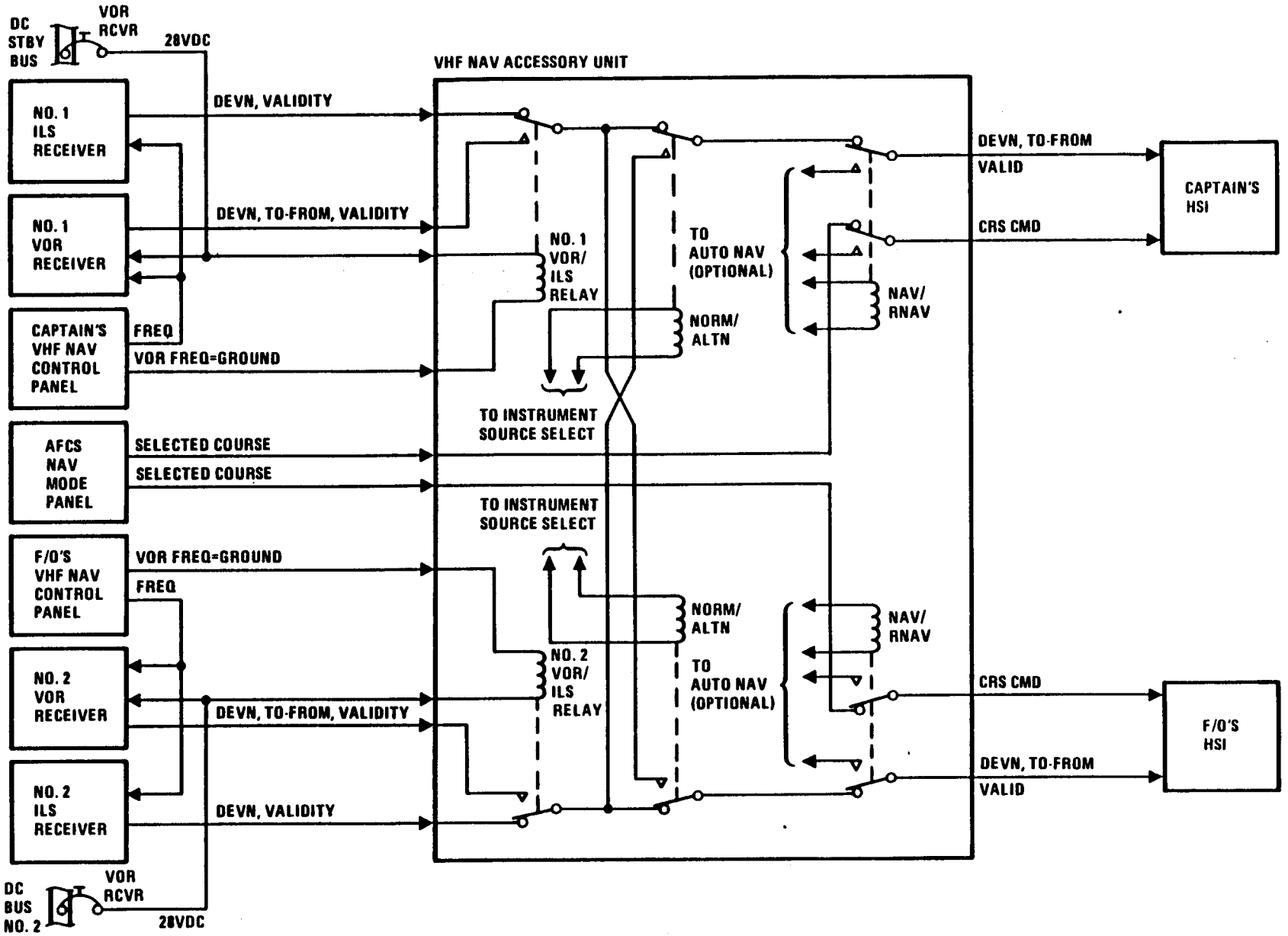
L-1011
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NAV MODE PANEL - NO. 1 VOR INTERFACE

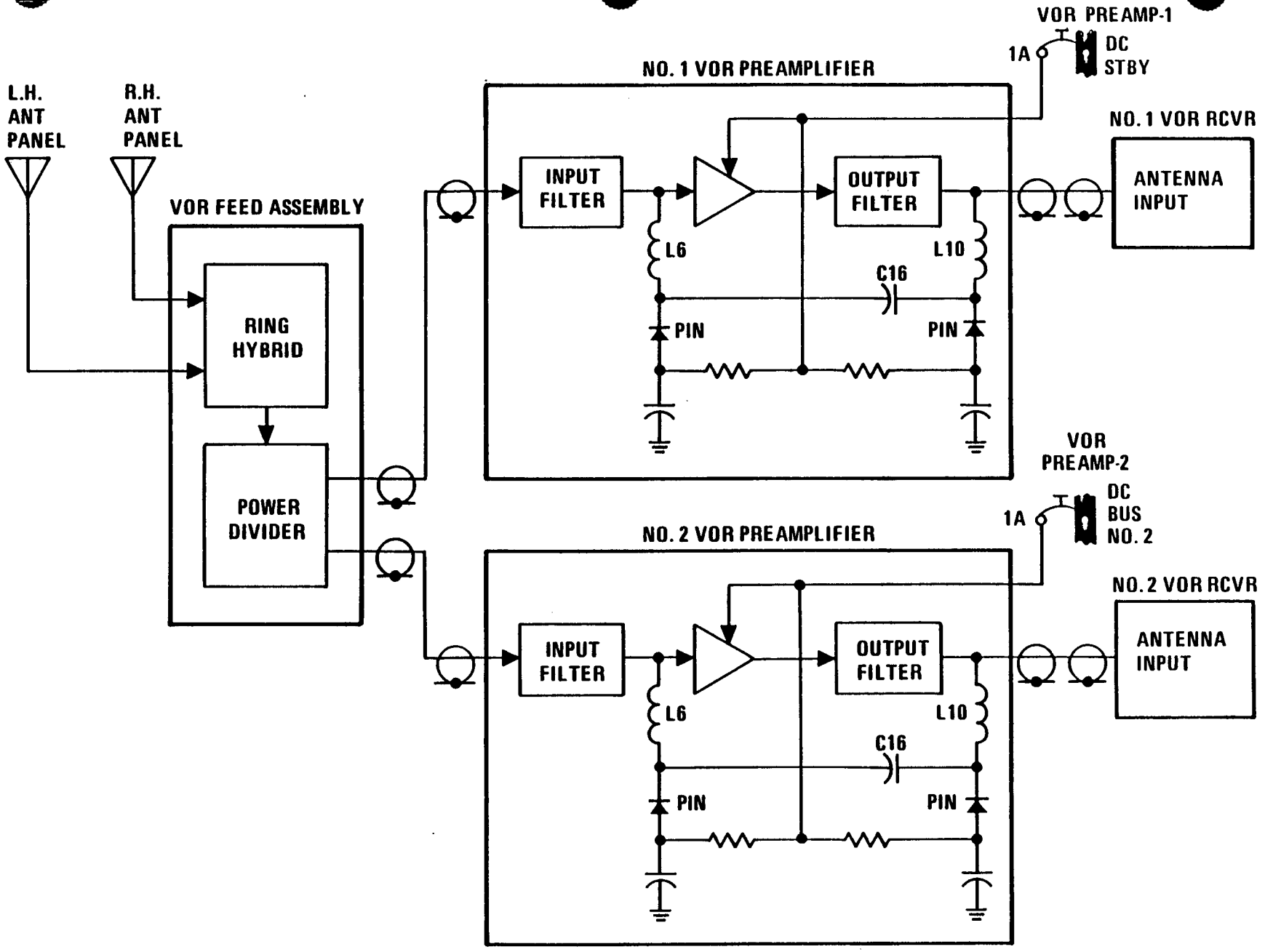
L-1011
11/74



T-34-55-0000-209

SIMPLIFIED HSI-NAV RADIO SWITCHING

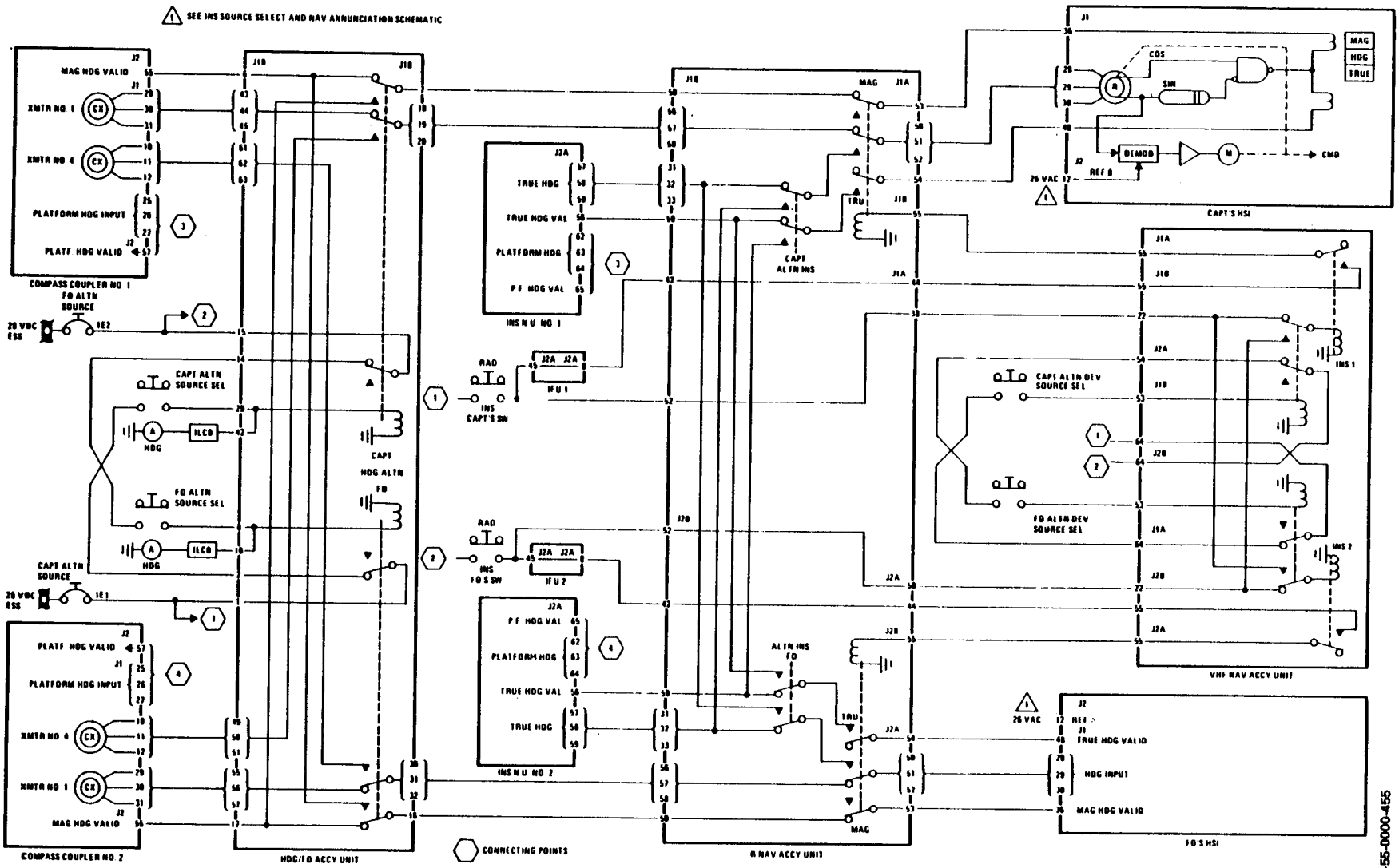
L-1011
11/74



T-34-55-0000-181

VOR ANT SYS FUNCTIONAL DIAGRAM

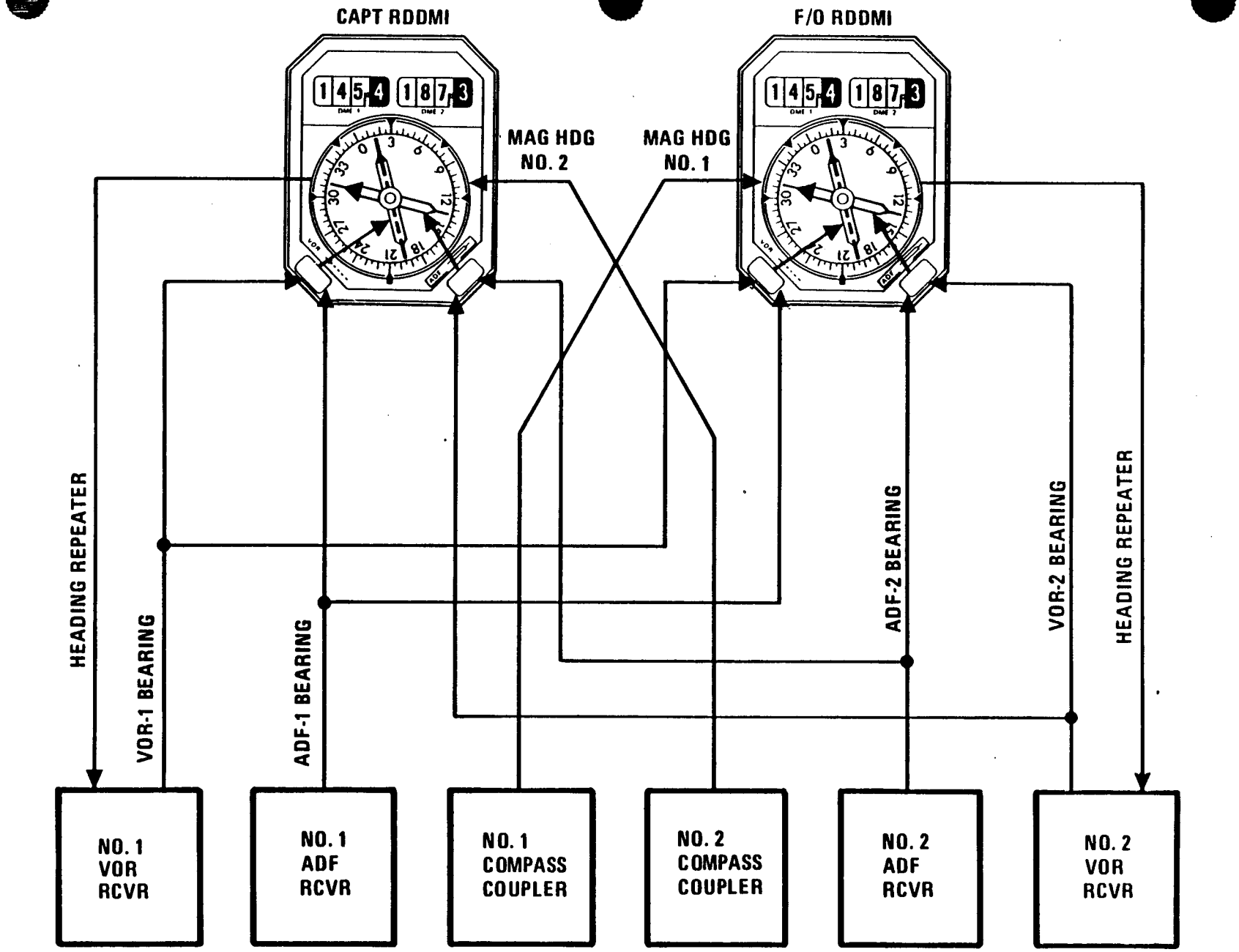
L-1011
7/73



T-34-55-0000-455

MAG/TRUE HEADING SWITCHING

L-1011



T-34-55-0000-208

RDDMI BEARING INPUTS

L-1011
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